



REPORT OF THE
Hydro-Electric Power
Commission
OF ONTARIO
1938

WILLS MACLACHLAN

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TIE-LINE TOWER IN TORONTO

This tie-line connects Leaside transformer station, terminus of the eastern 220,000-volt transmission line bringing power from the province of Quebec, with Strachan transformer station, a terminus of the 110,000-volt lines from Niagara.—Royal York hotel in background

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Ontario Hydro-Electric Power
Commission

(THIRTY-FIRST) ANNUAL REPORT

OF

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

FOR THE YEAR ENDED OCTOBER 31st

1938



ONTARIO

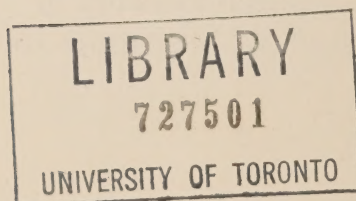
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1939

THE HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

T. H. HOGG, B.A.Sc., C.E., D.ENG.....*Chairman and Chief Engineer*
HON. WM. L. HOUCK, B.Sc., M.L.A.....*Vice-Chairman*
J. ALBERT SMITH, M.L.A.....*Commissioner*
OSBORNE MITCHELL.....*Secretary*



CHAIRMAN'S LETTER OF TRANSMITTAL

To His Honour

THE HONOURABLE ALBERT MATTHEWS, LL.D.,

Lieutenant-Governor of Ontario

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully presents the Thirty-First Annual Report of The Hydro-Electric Power Commission of Ontario for the fiscal year which ended October 31, 1938.

The record of the Commission's work presented in this Annual Report relates to three principal fields—the co-operative municipal field, the field of rural supply, and the Northern Ontario field. The first two cover the Commission's activities on behalf of the co-operative systems, and the last relates to its trustee-ship of the Northern Ontario Properties on behalf of the Province. Throughout the various sections of the Report dealing broadly with physical operation of the plants, constructional activities and financial statements, these fields of activity are clearly differentiated.

The Report also presents for the calendar year 1938 financial statements and statistical data relating to the municipal electric utilities operating in conjunction with the several co-operative systems for the supply of electrical service throughout the Province.

Operating Conditions

Operation of the plants on the Niagara river was severely affected by an unprecedented ice jam in the lower river in January, which backed up the water to such heights that on January 26, the Ontario Power plant was flooded with water and ice and completely put out of commission. The output of the Queenston plant at times was curtailed due to high tailwater. This condition was relieved about the middle of March, when a large portion of the ice jam in the river below the plant moved out.

Apart from the disaster to the Ontario Power plant, operating conditions throughout the several systems of the Commission was satisfactory. Precipitation was above normal and stream flow was adequate to meet all demands.

In the Niagara system, notwithstanding the loss of the output of the Ontario Power plant, the Commission was able to maintain full delivery of primary power to all customers.

To supplement the output of the power plants on the Georgian Bay system, power was transferred from the Niagara system, and purchased from the Water, Light & Power Commission of Orillia. With the completion of the Ragged Rapids plant, one unit of which was placed in service on October 18, 1938, it is anticipated that the necessary assistance from outside sources can be supplied from the Niagara system, through the Hanover frequency-changer set, for some time to come.

The output available from the generating plants of the Eastern Ontario system, together with the additional 18,000 horsepower which under the revised agreement with the Gatineau Power Company became available on October 1, 1938, enabled all primary power demands to be met. Certain quantities of secondary power were also available. These were supplemented by transfer of power from the Niagara system, sufficient in quantity to meet fully the secondary power demands of the Eastern Ontario system.

In the Thunder Bay system no difficulties were experienced in meeting the primary demands for power, notwithstanding the fact that in September the primary peak load, due to exceptional demands by the grain trade, reached the highest total on record. Precipitation on the watershed of the Nipigon river was about 16 per cent above average, and the operation of the Cameron Falls and Alexander developments was satisfactory.

The market for secondary power in the Thunder Bay system, although less than the previous year, was great enough at times to use more power than could be supplied by the Nipigon river developments. Consequently the arrangements previously in force with the Abitibi Power and Paper Company were continued throughout the year. These arrangements permitted the pulp and paper mills under the control of the above Company to obtain over the Commission's lines and stations a supply of secondary power from the Kaministiquia Power Company.

In Northern Ontario water storage and stream flow conditions associated with the operation of the power plants serving the various districts were satisfactory. The stream flow on the Abitibi river was adequate to meet all primary and secondary demands of the Abitibi district. The addition in March, 1938, of a fourth transformer bank at the Abitibi canyon generating station permits concurrent operation of four of the five 60,000 horsepower generators. The storage dam to control Frederick House and Night Hawk lakes was completed in time to impound the Spring run-off in 1938. Acquisition of the Crystal Falls generating station in 1937 relieved the power situation in the Sudbury and Nipissing districts, and greatly improved operating conditions.

Rehabilitation of the Ontario Power Plant

When the flood that inundated the Ontario Power plant receded twenty-four hours later, it left behind it about 7,000 tons of ice and a heavy deposit of oil over everything that had been submerged.

Rehabilitation of the Ontario Power plant was an undertaking of major proportions, which taxed the ingenuity of the Commission's engineers. In 1909 all attempts to dry the large generators submerged in a similar flood had been unsuccessful, and the consensus of opinion among those who had had recent experience of flood-damaged plants elsewhere was that attempts to dry out the large generators would not prove successful. However, the engineers responsible devised new methods and ingenious apparatus, and their efforts were rewarded by complete success.

Elsewhere in the Report a summary is given of the steps taken to restore to service the fifteen main units and all the auxilliary apparatus. To the engineers of the Commission much credit is due for the success attained in this difficult task.

Load Conditions

The general upward trend of the aggregate primary loads of the co-operative systems and Northern Ontario Properties which had been experienced since the major depression of 1932, flattened out in the latter part of 1937, and then showed a slight recession until near the end of the fiscal year which ended in October last. A comparison of the October, 1938, primary peak with that of October, 1937 for all systems and the Northern Ontario Properties showed an increase of 1.7 per cent. Following the end of the fiscal year an upward trend became apparent.

In the Niagara system, about four-fifths of the primary load represents load supplied to municipal utilities; the balance goes to large industrial consumers of the system, supplied direct by the Commission, chiefly electro-chemical and electro-metallurgical industries along the Niagara river. These large industries are very sensitive to industrial conditions in the United States and their power requirements in 1938 were greatly reduced. The municipal load therefore provides the best barometer of general conditions throughout southern Ontario. The winter peak of the high-tension municipal load which occurred in December was 6.2 per cent higher than the winter peak of 1937-1938.

The peak load of the Georgian Bay system occurs in the summer months and in 1938 this primary peak load was the highest ever carried. It occurred in the month of July, and was 8.4 per cent higher than the peak load of the previous summer. The primary peak of the Eastern Ontario system which occurs in the winter was nearly 5.0 per cent higher than the winter peak of 1937-1938. In the Thunder Bay system, due to the movement of the grain trade, the peak load in 1938 occurred in the month of September, and was the highest primary load ever carried by the Thunder Bay system. It exceeded the primary peak load of 1937 by 7.9 per cent.

One of the more encouraging features of the past year's operations was the growth in load in the districts served by the Northern Ontario Properties. In these districts, which serve mining developments and the communities dependent upon them, the primary peak load in December, 1938, was the highest on record. It was 26 per cent higher than the primary peak of December, 1937.

DISTRIBUTION OF PRIMARY POWER TO SYSTEMS
20-MINUTE PEAK HORSEPOWER—SYSTEM COINCIDENT PRIMARY PEAKS

System	1937	1938
	October	
Niagara system—25-cycle.....	1,036,997	1,040,214
Dominion Power & Transmission division—66⅔-cycle.....	57,507	46,515
Georgian Bay system.....	29,310	30,891
Eastern Ontario system.....	125,395	128,586
Thunder Bay system.....	88,800	93,606
Manitoulin rural power district.....	137	205
Northern Ontario Properties:		
Nipissing district.....	4,812	4,857
Sudbury district.....	14,611	17,895
Abitibi district.....	93,834	113,160
Patricia district.....	5,013	5,697
St. Joseph district.....	2,708	2,989
Total.....	1,459,124	1,484,615
	December	
Niagara system—25-cycle.....	1,070,778	1,112,466
Dominion Power & Transmission division—66⅔-cycle.....	56,032	48,123
Georgian Bay system.....	31,314	34,011
Eastern Ontario system.....	124,718	132,001
Thunder Bay system.....	85,235	83,773
Manitoulin rural power district.....	141	257
Northern Ontario Properties:		
Nipissing district.....	4,705	5,255
Sudbury district.....	16,153	17,954
Abitibi district.....	95,576	124,203
Patricia district.....	5,201	6,167
St. Joseph district.....	2,761	3,029
Total.....	1,492,614	1,567,239

Another encouraging feature of last year's operations was the continued phenomenal growth in the distribution of power to the rural power districts. The peak of the rural demand which occurs in the month of August was 15 per cent higher in 1938 than the corresponding load of 1937.

The total load in December, 1938, for all co-operative systems and the Northern Ontario Properties, including both primary and secondary loads, reached 1,954,083 horsepower, the highest ever carried by the systems of the Commission, and 9.0 per cent above the December peak of 1937.

The accompanying tabulation gives, for the months of October and December, 1937 and 1938, the primary peak loads of the co-operative systems and of the several districts of the Northern Ontario Properties. It also gives similar data for the total primary and secondary loads.

DISTRIBUTION OF POWER TO SYSTEMS—TOTAL PRIMARY AND SECONDARY
20-MINUTE PEAK HORSEPOWER—SYSTEM COINCIDENT PEAKS

System	1937	1938
	October	
Niagara system—25-cycle.....	1,126,675	1,259,115
Dominion Power & Transmission division—66 $\frac{2}{3}$ -cycle.....	57,507	46,515
Georgian Bay system.....	29,310	30,891
Eastern Ontario system.....	129,584	159,249
Thunder Bay system.....	134,678	131,394
Manitoulin rural power district.....	137	205
Northern Ontario Properties:		
Nipissing district.....	4,812	4,857
Sudbury district.....	14,611	17,895
Abitibi district.....	143,432	172,409
Patricia district.....	5,013	5,697
St. Joseph district.....	2,708	2,989
Total.....	1,648,467	1,831,216
	December	
Niagara system—25-cycle.....	1,235,523	1,359,786
Dominion Power & Transmission division—66 $\frac{2}{3}$ -cycle.....	56,032	48,123
Georgian Bay system.....	31,314	34,011
Eastern Ontario system.....	149,853	161,103
Thunder Bay system.....	132,038	132,399
Manitoulin rural power district.....	141	257
Northern Ontario Properties:		
Nipissing district.....	4,705	5,255
Sudbury district.....	16,153	17,954
Abitibi district.....	159,517	185,999
Patricia district.....	5,201	6,167
St. Joseph district.....	2,761	3,029
Total.....	1,793,238	1,954,083

Reliability of Service

Year by year the demand for reliability and continuity of service grows more exacting, and this demand is equally insistent from the rural power districts and from the urban communities. Reliability of service depends upon many factors. Several sources of power, preferably situated in widely separated localities, are much less liable to be simultaneously affected than one or two sources of the same aggregate capacity. There must, of course, be adequate reserve capacity. A thoroughly co-ordinated and inter-connected transmission network equipped with modern relay and protective devices is necessary. But above all, there must be a consistent policy of insistence upon the highest standard of construction and maintenance. To cope with breakdowns, emergency trucks and line repair equipment under trained personnel, strategically placed, must at all times be ready for instant action.

It is gratifying to the Commission to be able to report that interruptions to service during the past year were almost negligible, both in extent and duration. The splendid service record obtained for all systems, with their dependence solely upon hydro-electric plants, is largely due to consistent adherence to policies established on sound underlying principles.

Contributing to reliability of service are the studies carried out by the testing and research laboratories of the Commission. The studies made in connection with the design, construction and operation of the systems have resulted in improvements of materials and methods of operation. The programme of continuous and systematic research is an important means of protecting the Commission's investments, since it helps to secure material and equipment of the highest quality, and to obtain from this equipment the maximum life and most efficient service.

Additions to Generating Equipment

The Ragged Rapids development on the Musquash river about four miles below Bala was completed and came into service late in October, when an interesting opening ceremony was arranged to which representatives of the partner municipalities of the Georgian Bay system and others interested were invited.

The Ragged Rapids plant has a capacity of 10,000 horsepower and increases the total generating capacity available to the system to an amount approximating the present peak load demand. The power house contains two generating units, the turbine runners being of the Kaplan type with adjustable propeller blades which give a high efficiency at part loads.

Continuing the systematic programme of maintenance work on the power plants of the Wanapitei river, the timber dam on the Coniston development which was built in 1905 was replaced by a concrete structure.

Many generating stations of the Commission in Northern Ontario are situated in isolated districts. Even those stations constructed to serve new mining districts are often of necessity far from the new towns and settlements associated with the mines. To retain the services of satisfactory operators at these generating plants it is desirable to provide accomodation that will make living in these out-of-the-way places as attractive as possible. During the past year or two the Commission has built additional houses at several stations in the Northern districts. Fourteen houses at Abitibi Canyon and seven at Ear Falls are practically completed. A number of houses and colony buildings are also being erected at Cameron Falls on the Nipigon river. Where considered advisable, schoolhouses, recreation rooms, stores, hospital and other buildings are included, and provision is made for water supply and electric service, sewage disposal and fire protection.

Water Storage

In Northern Ontario an important water storage project was completed and brought into service. The project consists of a dam some fourteen miles below Connaught, which restores the level of Frederick House lake. This lake was drained twenty-nine years ago, and the new dam creates in it, and Night Hawk lake above it, a storage reservoir to augment the flow of the Abitibi river in periods of low water for the benefit of the Abitibi Canyon development. The dam was completed in time to impound the spring run-off of the Frederick

House river. The project increases the dependable capacity of the Abitibi development by 40,000 horsepower.

Surveys for additional power development projects were made in various areas of Northern Ontario. On behalf of the Province the Commission completed the dams and other hydraulic works in connection with the Long Lac development scheme. This scheme comprises a dam north of Long Lac on the Kenogami river, a tributary of the Albany river, and a control dam and diversion channel south of Long lake. The immediate function of the work is to make possible the economical transportation to lake Superior of pulpwood from an area tributary to Long lake and the Kenogami river. If it is desirable later, these works will permit the diversion of water from this watershed to lake Superior. This diversion, however, would require international agreement.

Purchased Power

At the beginning of the fiscal year with which this report deals, in November and December, 1937, a determined effort was made to bring to a satisfactory settlement the disputes with the Quebec power companies respecting the purchase of supplementary power supplies. As a result of discussion and negotiations new agreements were entered into with Gatineau Power Company, MacLaren-Quebec Power Company, and The Beauharnois Light, Heat and Power Company which it is believed are fair to the companies and satisfactory to the Commission. The termination of the unprofitable litigation was to both parties a major gain, effected by the new contracts. In addition, the companies ended the uncertainty with respect to a market for their power, but, recognizing the changed conditions resulting from the long economic depression, agreed to a reduction in the price for power, and to a modification of certain other terms of the contracts.

During the past year the supplies of purchased power gave the Commission valuable and readily available power reserves. The necessity for such reserves was brought forcibly to attention by the terrific ice jam in the Niagara river, which, early in 1938, brought down the Falls View bridge, flooded the Ontario Power plant and disabled it for months, while at the same time the output of the Commission's other Niagara river generating stations was curtailed, so that the maximum simultaneous loss to the Commission in generating capacity approximated 255,000 horsepower. The settlement with the Quebec power companies was desirable and necessary, and, all things considered, the terms were favourable to the Commission. The following tabulation summarizes the power supplies arranged for under the new agreements.

Gatineau Power Company and Gatineau Transmission Company: 25-cycle Power Contract. Maximum supply 260,000 horsepower, to be supplied as follows—December 1, 1937, 165,000 horsepower; November 1, 1938, 200,000 horsepower; November 1, 1939 to November 30, 1970, 260,000 horsepower.

Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company, Limited: Maximum supply 250,000 horsepower, to be supplied as follows—December 14, 1937, 125,000 horsepower; November 1, 1938, 150,000 horsepower; November 1, 1941, 200,000 horsepower; November 1, 1942, 225,000 horsepower; November 1, 1943 to November 1, 1976, 250,000 horsepower.

Ottawa Valley Power Company: This contract for 96,000 horsepower was unchanged.

Maclaren-Quebec Power Company and The James Maclaren Company, Limited: Maximum supply 100,000 horsepower to be supplied as follows—December 14, 1937, 40,000 horsepower; November 1, 1938, 60,000 horsepower; November 1, 1940, 80,000 horsepower; November 1, 1944 to October 31, 1970, 100,000 horsepower.

Gatineau Power Company and Gatineau Transmission Company: 60-cycle power contract. Maximum supply 60,000 horsepower as follows—December 1, 1937, 42,000 horsepower; October 1, 1938 to November 30, 1970, 60,000 horsepower.

The Eastern Ontario system took delivery of the last block of 60-cycle power available under the Gatineau contract, namely, 18,000 horsepower, on October 1, 1938, and this power will take care of the 1939 increase in load and act as a reserve for the system.

Increased Transmission and Distribution Equipment

The transmission and distribution facilities of the several systems were extended and strengthened in many districts. In the Niagara system the capacity of the Leaside transformer station has been increased to 420,000 kv-a by the installation of two 75,000-kv-a banks of transformers. A double circuit 110,000-volt line was completed between the transformer stations at Leaside and Strachan Avenue, to give an additional tie from the eastern power sources into the Niagara system. Eight new distributing stations were installed throughout the system and in seventeen others the capacity was increased.

In the Georgian Bay system, in order to meet conditions which it was anticipated would arise with the completion of the new 10,000 horsepower development at Ragged Rapids, the transmission networks of the system had been substantially strengthened in 1937. It was only necessary to complete this work during 1938. Additional transformer capacity was installed at eleven distribution stations.

In the Eastern Ontario system much has already been accomplished in the direction of highly reliable inter-connections. Among the more recent additions are the Madawaska tie, in the form of a 33,000-volt transmission line from Carleton Place to Arnprior, and the 110,000-volt Chats Falls-Trenton line. The Madawaska tie has been valuable in two ways. First, it made available to the system as a whole the surplus capacity in the Calabogie plant, over and above the requirements of the Madawaska district. Second, it enabled the rest of the system to assist the Madawaska district for a period of four months in 1938, during which the Calabogie station was disabled owing to the damage of generators by lightning. The Chats Falls-Trenton line has greatly facilitated the transfer of power in connection with the operation of the Eastern Ontario system. During the past year four new distributing stations were installed, and the capacity of four others increased.

In the Thunder Bay system the 9,000-kv-a Long Lac transformer station was completed for the supply of power to the mining companies in that area, and two new companies were served.

The growth of the mining load in Northern Ontario necessitated the installation of new transformer and distributing stations, and the enlargement of others with the installation of additional equipment in many cases.

In all of the systems of the Commission a total of more than 135 route miles of transmission lines were constructed, 8 miles of which were for operation at 110,000 volts.

Rural Electrical Service

The rural construction programme undertaken by the Commission during the year 1938 exceeded by a substantial margin the record of 1937, which was the previous high mark. The rural primary lines approved for construction in 1938 approximated 2,660 miles to serve more than 14,000 additional customers. The previous records were 2,300 miles in 1937 and 1,894 miles in 1930. Most of these lines were actually constructed during the year, or were under construction at the year's end. Due to the exceptionally heavy programme a few lines approved in 1938 will not be completed until early in 1939.

Due chiefly to the lowering of the service charge and the reduced requirements respecting the number of consumers per mile of line, the extension of service in rural power districts has in the past two or three years shown phenomenal growth. At the present time there are approximately 15,800 miles of rural lines serving 100,000 consumers, distributed among nearly 500 municipalities, including townships and police villages.

The aggregate load supplied to all rural Hydro consumers in the Province indicates by its substantial increase a growing appreciation of electrical service and an ability to install equipment to utilize this service. The average load for 1937 amounted to 45,506 horsepower. This increased during the year 1938 to 53,383 horsepower, or an increase of 17.3 per cent during the year. The present intense interest in the extension of rural service promises to continue. It is expected that during the year 1939 the rural construction programme will continue at the same pace as that of the last few years.

Capital Expenditures

The extensions to generating stations, transmission lines and distribution networks, storage works, etc., during the year, have required capital expenditure of \$10,876,458.83 as follows:

CAPITAL ADDITIONS YEAR ENDED OCTOBER 31, 1938

Niagara system.....	\$ 3,238,679.86
Georgian Bay system.....	1,438,364.80
Eastern Ontario system.....	682,015.04
Thunder Bay system.....	232,272.70
Manitoulin and Nipissing rural power districts.....	41,362.69
Northern Ontario Properties.....	2,945,951.23
Service and administrative buildings and equipment.....	100,037.28
	<hr/>
	\$8,678,683.60
Provincial rural grant (To October 31).....	2,197,775.23
	<hr/>
Total.....	<u>\$10,876,458.83</u>

Sales Promotion

During the first two decades of the Hydro enterprise continuous rapid growth took place, stimulated by a succession of exceptional causes, terminating in the economic boom of the late twenty's. The chief problem of the Commission during the first twenty years of its existence was that of providing sufficient power to meet the ever-pressing demand. The economic depression ended this period and the return of better times finds the Commission with

ample supplies of power secured for some years ahead. One of the problems facing the Commission at the present time, therefore, is to make known to all Ontario's citizens the nature of the benefits which they can derive from making the fullest possible use in domestic and industrial fields of the low-cost power now available.

For the past few years, therefore, the Commission has devoted more attention to the promotion of the use of electricity in the home, on the farm, and in commercial institutions. During 1938 various campaigns were carried on in co-operation with the municipal utilities and the manufacturers of electrical equipment. Organization and advertising assistance was provided to the municipalities to conduct an electric range campaign, a water heater campaign, and a better lighting campaign, and the Commission conducted similar campaigns in the rural power districts.

The Commission plans to enlarge its activities in the promotional field, and has appointed a director of Sales Promotion, who is organizing a department to be responsible for advertising and promotional work. This department will form a co-ordinating medium uniting the efforts of the municipal Hydro utilities, The Hydro-Electric Power Commission and other branches of the electrical industry in the Province. By such united effort the maximum results should be obtained.

CAPITAL INVESTMENT

The total investment of The Hydro-Electric Power Commission of Ontario in power undertakings and hydro-electric railways is \$314,768,081.30 exclusive of government grants in respect of construction of rural power districts' lines (\$14,149,666.86); and the investment of the municipalities in distributing systems and other assets is \$122,053,495.27, making in power and hydro-electric railway undertakings a total investment of \$436,821,576.57.

The following statement shows the capital invested in the respective systems, districts and municipal undertakings, etc.:

Niagara system (including Hamilton street railway).....	\$214,698,746.89
Georgian Bay system.....	11,008,373.01
Eastern Ontario system.....	22,011,287.79
Thunder Bay system.....	19,709,666.87
Manitoulin rural power district.....	74,614.88
Nipissing rural power districts.....	44,695.60
Bonnechere storage.....	51,741.88
Office and service buildings.....	3,207,839.58
Construction plant and inventories.....	3,085,355.01
Preliminary surveys—St. Lawrence, Ottawa and Ogoki rivers.....	1,182,302.67
	<hr/>
	\$275,074,624.18
Northern Ontario Properties—Operated by H-E.P.C. on behalf of the Province of Ontario.....	37,010,269.88
Northern Ontario Properties—Construction plant and inventories.....	127,886.51
Guelph Radial Railway—Operated by H-E.P.C. on behalf of the Municipality of Guelph.....	453,433.33
Toronto-Port Credit-St. Catharines Radial Railways.....	2,101,867.40
	<hr/>
	\$314,768,081.30
Municipalities' distribution system.....	98,101,256.69
Other assets of municipal Hydro utilities.....	23,952,238.58
	<hr/>
	<u>\$436,821,576.57</u>

RESERVES OF COMMISSION AND MUNICIPAL ELECTRICAL UTILITIES

The total reserves of the Commission and the municipal electric utilities for depreciation, contingencies, stabilization of rates, sinking fund and insurance purposes amount to \$200,103,382.07, made up as follows:

Niagara system (including Hamilton street railways).....	\$ 81,328,565.42
Georgian Bay system.....	4,675,832.39
Eastern Ontario system.....	9,144,181.83
Thunder Bay system.....	6,056,354.93
Manitoulin rural power district.....	11,120.13
Nipissing rural power districts.....	13,703.44
Office and service buildings and equipment.....	994,144.29
Bonnechere storage.....	13,717.74
Total reserves in respect of Commission's properties.....	\$102,237,620.17
Northern Ontario Properties.....	5,034,104.69
Guelph Radial Railway.....	214,799.84
Fire insurance reserve.....	72,441.34
Miscellaneous reserves.....	454,453.53
Employers' liability insurance, and staff pension reserves.....	6,588,155.84
Total reserves of the Commission.....	\$114,601,575.41
Total reserves and surplus of municipal electric utilities.....	85,501,806.66
Total Commission and municipal reserves.....	<u>\$200,103,382.07</u>

Financial Operating Results for 1938

During the fiscal year 1938 the interim rates per horsepower, which are set by the Commission as a basis for the monthly levies towards the total cost of power as determined at the end of the year, remained at their lowered level. It will be recalled that in August, 1937, on the Niagara and Eastern Ontario systems, a substantial reduction was made in the interim rate to municipalities. This reduction in the interim rate was continued throughout the year 1938.

The revenue in 1938, therefore, reflects the fact that for the first nine months of the year rates to municipalities of the Niagara and Eastern Ontario systems were lower than in the corresponding months of 1937. This reduction in revenue to The Hydro-Electric Power Commission of Ontario by reason of reduced rates, involves, of course, no actual loss to consumers. On the contrary, the decrease in revenue to the Commission represents a gain to the Niagara system utilities which is ultimately passed on to the consumers, in lower rates or in other ways.

The industrial recession in the United States had a marked effect in the later months of the year upon the Commission's sales of power to large electro-chemical and electro-metallurgical companies in the Niagara area, resulting in substantial curtailment of revenue compared with what earlier had been indicated as probable from this source.

During the fiscal year there was an increase of two million dollars in the cost of purchased power from the Quebec contracts settlement. This, of course, was foreseen when the agreements were revised. Notwithstanding this increase in Niagara system expenses and decrease in revenue in 1938, the Commission

was able to set up the full sinking fund requirement, and normal depreciation after meeting all operating, maintenance and interest expenses. The amount contributed to the contingencies reserve was also approximately the same as in 1937. During 1937 two and one-third million dollars were set up in a rate stabilization reserve. In 1938 no contribution from revenue has been made to this reserve in the Niagara system. At the present time, however, the Commission has over four and a half million dollars in its Niagara system rate stabilization fund. This fund was created for the purpose of stabilizing rates and differs from other reserves in that it is not augmented year by year and every year regardless of the conditions which led to its creation. The significant

COMPARATIVE FINANCIAL STATEMENTS

NIAGARA SYSTEM

	1937	1938
	\$ c.	\$ c.
OPERATING EXPENSES AND FIXED CHARGES		
Power purchased.....	3,836,382.42	5,786,911.41
Operation, maintenance and administration.....	4,491,192.50	4,439,228.79
Interest.....	9,507,517.24	9,512,385.19
Provision for depreciation and obsolescence.....	1,535,172.54	1,558,882.56
Provision for contingencies.....	604,061.68	604,442.27
Provision for stabilization of rates.....	2,337,400.00	.....
Sinking fund.....	2,116,646.19	2,201,335.71
TOTAL COST OF POWER.....	24,428,372.57	24,103,185.93
REVENUE from municipalities at interim rates, from rural consumers and from private customers under flat rate contracts.....	24,703,427.00	23,931,458.03
Net balance credited or (charged) to municipalities under cost contracts.....	275,054.43	(171,727.90)

EASTERN ONTARIO SYSTEM

	1937	1938
	\$ c.	\$ c.
OPERATING EXPENSES AND FIXED CHARGES		
Power purchased.....	860,445.93	905,233.97
Operation, maintenance and administration.....	869,431.57	938,595.30
Interest.....	899,144.29	979,566.89
Provision for depreciation and obsolescence.....	233,212.79	261,820.01
Provision for contingencies.....	59,938.67	66,627.95
Provision for stabilization of rates.....	240,499.00	81,494.60
Sinking fund.....	194,453.23	230,069.37
TOTAL COST OF POWER.....	3,357,125.48	3,463,408.09
REVENUE from municipalities at interim rates, from rural consumers and from private customers under flat rate contracts.....	3,480,076.27	3,564,306.86
Net balance credited to municipalities under cost contracts.....	122,950.79	100,898.77

fact with respect to 1938 operations is that there has been no withdrawal from the rate stabilization fund.

The year's operations on the other systems of the Commission and the amounts placed to reserves were satisfactory. After meeting all operating expenses the Commission added to its financial reserves, including those for the Northern Ontario Properties, insurance, workmen's compensation and staff pension provisions, the sum of about eleven million dollars.

On this and facing page are given comparative financial statements for the years 1937 and 1938 respecting the four co-operative systems of the Commission.

RESPECTING THE SYSTEMS OF THE COMMISSION

GEORGIAN BAY SYSTEM

	1937	1938
	\$ c.	\$ c.
OPERATING EXPENSES AND FIXED CHARGES		
Power purchased.....	56,168.59	53,649.21
Operation, maintenance and administration.....	407,895.94	471,050.65
Interest.....	394,273.33	404,626.36
Provision for depreciation and obsolescence.....	121,371.85	133,878.03
Provision for contingencies.....	28,221.24	29,247.78
Provision for stabilization of rates.....	79,548.60	86,648.10
Sinking fund.....	92,039.78	99,052.44
TOTAL COST OF POWER.....	1,179,519.33	1,278,152.57
REVENUE from municipalities at interim rates, from rural consumers and from private customers under flat rate contracts.....	1,204,168.95	1,333,384.79
Net balance credited to municipalities under cost contracts.....	24,649.62	55,232.22

THUNDER BAY SYSTEM

	1937	1938
	\$ c.	\$ c.
OPERATING EXPENSES AND FIXED CHARGES		
Operation, maintenance and administration.....	303,862.40	355,919.97
Interest.....	882,602.58	895,768.34
Provision for depreciation and obsolescence.....	159,220.92	159,990.02
Provision for contingencies.....	85,706.48	85,852.37
Provision for stabilization of rates.....	123,423.00	.....
Sinking fund.....	253,889.59	283,441.03
TOTAL COST OF POWER.....	1,808,704.97	1,780,971.73
REVENUE from municipalities at interim rates, from rural consumers and from private customers under flat rate contracts.....	1,815,285.87	1,764,873.24
Net balance credited or (charged) to municipalities under cost contracts.....	6,580.90	(16,098.49)

REVENUE OF COMMISSION

The revenue of the Commission at interim rates from the municipal utilities operating under cost contracts, from customers in rural power districts and from other customers with whom—on behalf of the municipalities—the Commission has special contracts, all within the Niagara, Georgian Bay, Eastern Ontario and Thunder Bay systems, Manitoulin Island and Nipissing rural power districts aggregates \$30,620,707.51. The revenue of the Commission from customers served by the Northern Ontario Properties, which are held and operated in trust for the Province, is \$3,402,958.84, making a total of \$34,023,666.35.

Summarized operating results of these systems and rural power districts and of the Northern Ontario Properties, follow:

SUMMARIZED OPERATING RESULTS

OF THE

NIAGARA, EASTERN ONTARIO, GEORGIAN BAY, THUNDER BAY SYSTEMS

AND ALSO

NIPISSING AND MANITOULIN RURAL POWER DISTRICTS

Revenue; amount received from or billed against municipalities and other customers.....	\$27,072,808.10	
Revenue from customers in rural power districts.....	3,547,899.41	
Total revenue, systems and rural.....		\$30,620,707.51
Operation, maintenance, administration, interest and other current expenses.....	\$24,765,730.53	
Provision for reserves—		
Depreciation and obsolescence.....	\$2,116,095.55	
Contingencies.....	786,170.37	
Stabilization of rates.....	168,142.70	
Sinking fund.....	2,814,737.24	
	5,885,145.86	
		<u>\$30,650,876.39</u>
Net balance.....	\$	<u>30,168.88</u>

SUMMARIZED OPERATING RESULTS

OF THE

NORTHERN ONTARIO PROPERTIES

Held and operated by The Hydro-Electric Power Commission of Ontario
in trust for the Province of Ontario

Revenue; amount received from or billed against municipalities and other customers.....	\$	3,402,958.84
Operation, maintenance, administration, interest and other current expenses.....	\$	1,948,978.63
Provision for reserves—		
Depreciation and obsolescence.....	\$	307,021.57
Contingencies.....		76,101.45
Sinking fund.....		962,438.79
		1,345,561.81
		<u>3,294,540.44</u>
Balance.....	\$	<u>108,418.40</u>

MUNICIPAL ELECTRIC UTILITIES

The following is a summation of the year's operation of the local electric utilities conducted by municipalities receiving power under cost contracts with the Commission:

Total revenue collected by the municipal electric utilities	\$33,981,832.73
Cost of power	\$20,575,457.95
Operation, maintenance and administration	5,842,714.89
Interest	1,642,663.25
Sinking fund and principal payments on debentures	2,424,098.70
Depreciation and other reserves	2,451,529.46
Total	32,936,464.25
Surplus	1,045,368.48

With regard to the local Hydro utilities operating under cost contracts, the following statements summarize for each of the four co-operative systems administered by the Commission, the financial status and the year's operations as detailed in Section X of the Report.

NIAGARA SYSTEM

The total plant assets of the Niagara system utilities amount to \$83,001,844.87. The total assets, including an equity in the H-E.P.C. of \$38,546,153.06 aggregate \$141,134,310.55. The reserves and surplus accumulated in connection with the local utilities, exclusive of the equity in the H-E.P.C., amount to \$69,341,857.12, an increase of \$4,235,812.60 during the year 1938. The percentage of net debt to total assets is 24.4, a reduction of 2.9 per cent.

The total revenue of the municipal electric utilities served by this system was \$27,567,836.78, a decrease of \$87,388.18, as compared with the previous year. After meeting all expenses in respect of operation, including interest, setting up the standard depreciation reserve amounting to \$2,003,615.43 and providing \$2,242,798.84 for the retirement of instalment and sinking fund debentures, the total net surplus for the year for the municipal electric utilities served by the Niagara system amounted to \$655,157.82, as compared with \$998,132.08 the previous year.

GEORGIAN BAY SYSTEM

The total plant assets of the Georgian Bay system utilities amount to \$2,907,381.17. The total assets, including an equity in the H-E.P.C. of \$1,421,198.47 aggregate \$4,951,555.31. The reserves and surplus accumulated in connection with the local utilities, exclusive of the equity in H-E.P.C., amount to \$3,087,587.69, an increase of \$140,669.80 during the year 1938. The percentage of the net debt to total assets is 12.3, a reduction of 1.6 per cent.

The total revenue of the municipal electric utilities served by this system was \$1,240,089.71, an increase of \$25,202.30 as compared with the previous year. After meeting all expenses in respect of operation, including interest, setting up the standard depreciation reserve amounting to \$87,698.08 and providing \$47,943.38 for the retirement of instalment and sinking fund debentures, the total net surplus for the year for the municipal electric utilities served by the Georgian Bay system amounted to \$75,450.57 as compared with \$48,756.13 the previous year.


EASTERN ONTARIO SYSTEM

The total plant assets of the Eastern Ontario system utilities amount to \$8,789,985.03. The total assets, including an equity in the H-E.P.C. of \$1,956,360.34, aggregate \$13,180,818.72. The reserves and surplus accumulated in connection with the local utilities, exclusive of the equity in H-E.P.C., amount to \$9,102,617.17, an increase of \$571,908.72 during the year 1938. The percentage of net debt to total assets is 12.3, a reduction of 1.7 per cent.

The total revenue of the municipal electric utilities served by this system was \$3,536,559.56, a decrease of \$28,937.31 as compared with the previous year. After meeting all expenses in respect of operation, including interest, setting up the standard depreciation reserve amounting to \$226,373.00 and providing \$106,983.15 for the retirement of instalment and sinking fund debentures, the total net surplus for the year for the municipal electric utilities served by the Eastern Ontario system amounted to \$243,365.46 as compared with \$290,449.54 the previous year.

THUNDER BAY SYSTEM

The total plant assets of the Thunder Bay system utilities amount to \$2,726,465.75. The total assets, including an equity in the H-E.P.C. of \$2,330,406.77, aggregate \$6,220,833.02. The reserves and surplus accumulated in connection with the local utilities, exclusive of the equity in H-E.P.C., amount to \$3,350,233.84 a decrease of \$17,248.22 during the year 1938. The percentage of net debt to total assets is 9.5, an increase of 0.1 per cent.

 The total revenue of the municipal electric utilities served by this system was \$1,179,175.59, a decrease of \$136,755.81 as compared with the previous year. After meeting all expenses in respect of operation, including interest, setting up the standard depreciation reserve amounting to \$43,891.34 and providing \$11,093.64 for the retirement of instalment and sinking fund debentures, the total net loss for the year for the municipal electric utilities served by the Thunder Bay system amounted to \$16,900.17, as compared with a net surplus of \$64,835.16 for the previous year.

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In concluding this survey and summary of the year's operations my colleagues, Hon. Wm. L. Houck and Mr. J. Albert Smith, join with me in acknowledging the efficient and faithful service rendered by the staff.

During the year it has been my privilege to meet in friendly consultation many of those entrusted by the various municipalities with the direction of their local Hydro utilities, and to speak to representative Hydro gatherings in each of the co-operative systems. I wish to express the sincere thanks of my colleagues and myself for the kindly welcome given to us in the various communities visited, and for the helpful spirit of co-operation everywhere shown. And to the Press of the Province I desire to say that we are grateful for its continued service and support.

Respectfully submitted,

T. H. HOGG,

Chairman

TORONTO, ONTARIO, MARCH 31ST, 1939

T. H. HOGG, EsQ., B.A.Sc., C.E., D.ENG.,

*Chairman, The Hydro-Electric Power Commission of Ontario,
Toronto, Ontario.*

Sir,—I have the honour to submit, herewith, the Thirty-first Annual Report of The Hydro-Electric Power Commission of Ontario for the fiscal year which ended October 31, 1938. This report covers the operations of the Commission with regard to the supply of power to, or on behalf of, the partner Municipalities of the several Co-operative Systems, as well as the administration of the Northern Ontario Properties, which are held and operated by the Commission in trust for the Province of Ontario.

I have the honour to be, Sir,

Your obedient servant,

OSBORNE MITCHELL,

Secretary

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THIRTY-FIRST ANNUAL REPORT
OF
The Hydro-Electric Power Commission
of Ontario

FOREWORD
and
Guide to the Report

THE Hydro-Electric Power Commission of Ontario administers a co-operative municipal-ownership enterprise, supplying power throughout the Province of Ontario. The Commission was created in 1906 by special act of the Legislature and followed investigations by advisory commissions appointed as a result of public agitation to prevent monopoly and to provide a more satisfactory supply of low-cost power in Southern Ontario. In 1907 The Power Commission Act (7-Edward VII Ch. 19) was passed amplifying and extending the Act of 1906 and this Act—modified by numerous amending acts which now form part of the Revised Statutes of Ontario, 1937, Chap. 62—constitutes the authority under which the Commission operates.

The Hydro-Electric Power Commission of Ontario consists of a Chairman and two Commissioners, all of whom are appointed by the Lieutenant-Governor-in-Council to hold office during pleasure. One of the Commissioners must be a member of the Executive Council and two may be members.

In 1909, work was commenced on a comprehensive transmission system and by the end of 1910 power was being supplied to several municipalities.

The Commission has now been supplying electrical energy for more than twenty-eight years and the Report contains diagrams depicting the growth of the enterprise. During this period the costs of electricity to the consumer have been substantially reduced and the finances of the enterprise have been established on a secure foundation.

At the end of 1938 the Commission was serving 821 municipalities in Ontario. This number included 26 cities, 102 towns, 285 villages and police villages and 408 townships. With the exception of 14 suburban sections of townships known as “voted areas”, the townships and 102 of the smaller villages are served as parts of 178 rural power districts.

Financial Features of Co-operative Systems

The basic principle governing the financial operations of the undertaking is, that electrical service be given by the Commission to the municipalities and by the municipalities to the ultimate consumers at cost. Cost includes not only all operating and maintenance charges, interest on capital investment and reserves for renewals or depreciation, for obsolescence and contingencies, and for stabilization of rates, but also a reserve for sinking fund or capital payments on debentures.

The undertaking from its inception has been entirely self-supporting and no contributions have been made from general taxes except in connection with service in rural power districts. In this case, the Province, in pursuance of its long established policy of assisting agriculture and with the approval of the urban citizens, assists extension of rural electrical service by a grant-in-aid of the capital cost and in other ways as specified and detailed in the Report.

As the principle of "service at cost" is radically different from that obtaining in private organizations, where profit is the governing feature, it naturally results in different and in some ways unique administrative features.

The undertaking as a whole involves two distinct phases of operations as follows:

The *First* phase of operations is the provision of the electrical power—either by generation or purchase—and its transformation, transmission and delivery in *wholesale* quantities to individual municipal utilities, to large industrial consumers, and to rural power districts. This phase of the operations is performed by The Hydro-Electric Power Commission of Ontario as trustee for the municipalities acting collectively in groups or "systems," and the financial statements relating to these collective activities of the municipalities are presented in Section IX of the Report. Each system of municipalities, as provided in *The Power Commission Act*, forms an independent financial unit and the accounts are therefore segregated and separately presented for each system. In order, however, that there may be a comprehensive presentation of the co-operative activities of the undertaking as a whole, there are presented, in addition, for the four main systems and miscellaneous co-operative activities, a balance sheet of assets and liabilities, a statement of cost distributions, a tabulation of fixed assets, and summary combined statements respecting the various reserves.

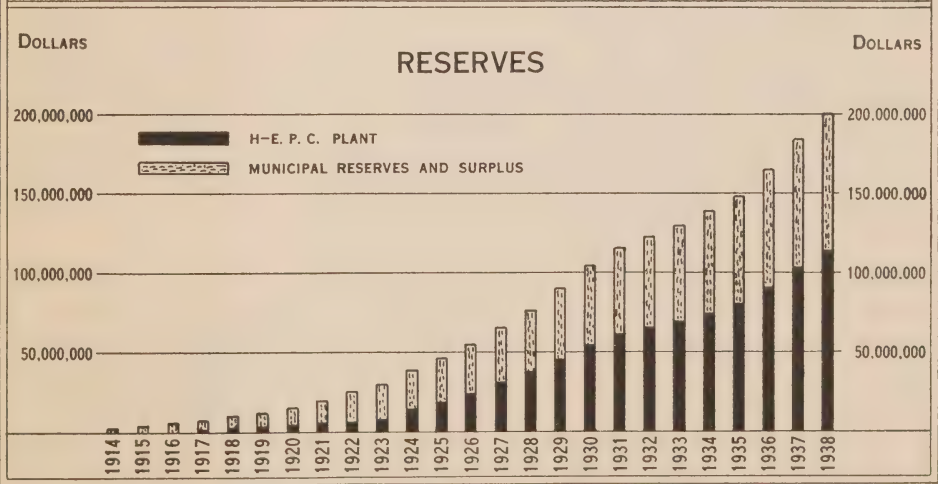
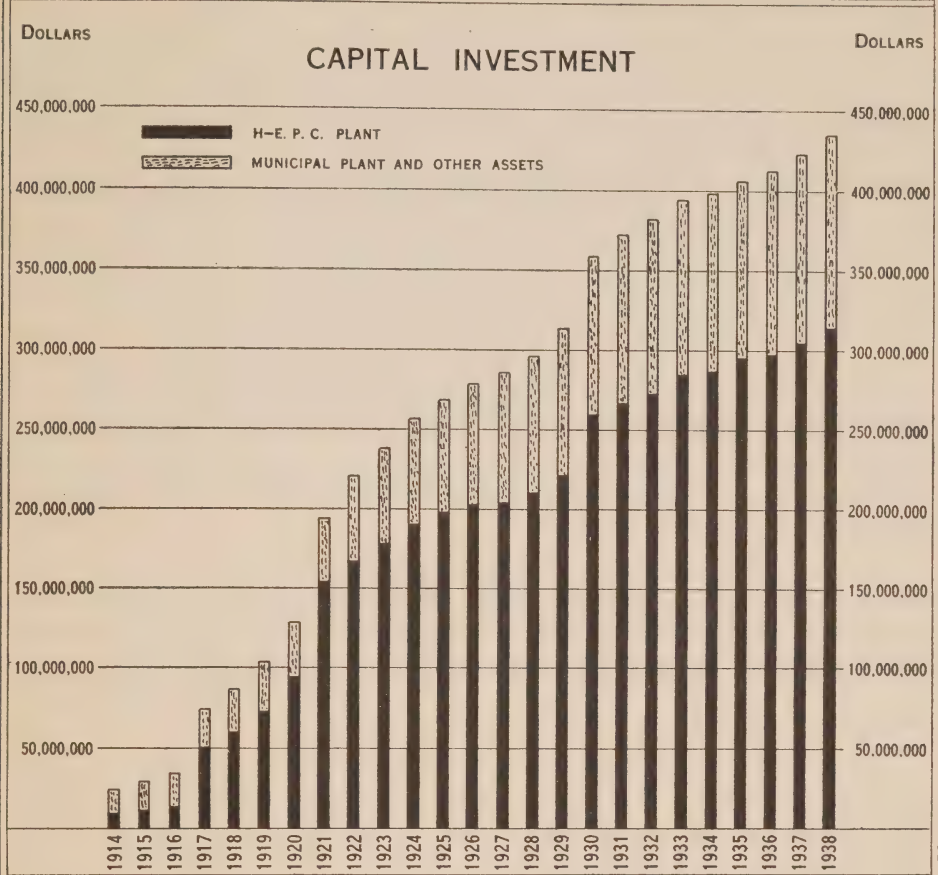
The *Second* phase of operations is the *retail* distribution of electrical energy to consumers within the limits of the areas served by the various municipal utilities and rural power districts. In the case of rural power districts, which usually embrace portions of more than one township, The Hydro-Electric Power Commission not only provides the power at wholesale, but also—on behalf of the respective individual townships—attends to all physical and financial operations connected with the distribution of energy at retail to the consumers within the rural power districts. Summary financial statements relating to the rural power districts are also presented in Section IX of the Report, and a general report on their operation is given in Section III.

In the case of cities, towns, many villages and certain thickly populated areas of townships, retail distribution of electrical energy provided by the Commission is in general conducted by individual local municipal utility commissions under the general supervision of The Hydro-Electric Power Commission of Ontario. The balance sheets, operating reports and statistical data relating to the individual urban electrical utilities are presented in Section X of the Report.

For the Northern Ontario Properties held and operated by the Commission in trust for the Province there are also presented in Section IX financial statements including a balance sheet; an operating account, and statements respecting reserves and capital expenditures.

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

TWENTY-FIVE YEARS RECORD—ALL SYSTEMS



Further details respecting administration, and explanations of the financial tables presented in the Report are given in the introductions to sections IX and X on pages 155 and 245.

Co-operative Systems Operating

From time to time in accordance with provisions in *The Power Commission Act* various groups of municipalities have been co-ordinated to form systems for the purpose of obtaining power supplies from convenient sources. In some cases these small systems grew until their transmission lines interlocked with those of adjacent systems and it proved beneficial to consolidate the transmission networks and the financial and administrative features. In the well settled parts of the Province, known as Old Ontario, this process has now reached a more stable condition and the municipalities of the southern part of the Province are now combined in three systems: the Niagara system, the Georgian Bay system and the Eastern Ontario system. One other system of partnership municipalities is known as the Thunder Bay system.

The Niagara System is the largest and most important system. It embraces municipalities in all the territory between Niagara Falls, Hamilton and Toronto on the east and Windsor, Sarnia and Goderich on the west. It is served with electrical energy generated at plants on the Niagara river, supplemented with power transmitted from generating plants on the Ottawa river and with power purchased from Quebec companies.

The Georgian Bay System comprises municipalities in that part of the Province which surrounds the southern end of Georgian Bay and lies to the north of the territory served by the Niagara system. It includes the districts surrounding lake Simcoe and extends as far north as Huntsville in the Lake of Bays district and south to Port Perry. Its power supplies are derived chiefly from local water power developments.

The Eastern Ontario System serves all of Ontario east of the areas comprising the Georgian Bay and the Niagara systems. It includes the districts of Central Ontario, St. Lawrence, Rideau, Ottawa and Madawaska; formerly separate systems. Its power supplies are from local developments supplemented by purchases from other sources.

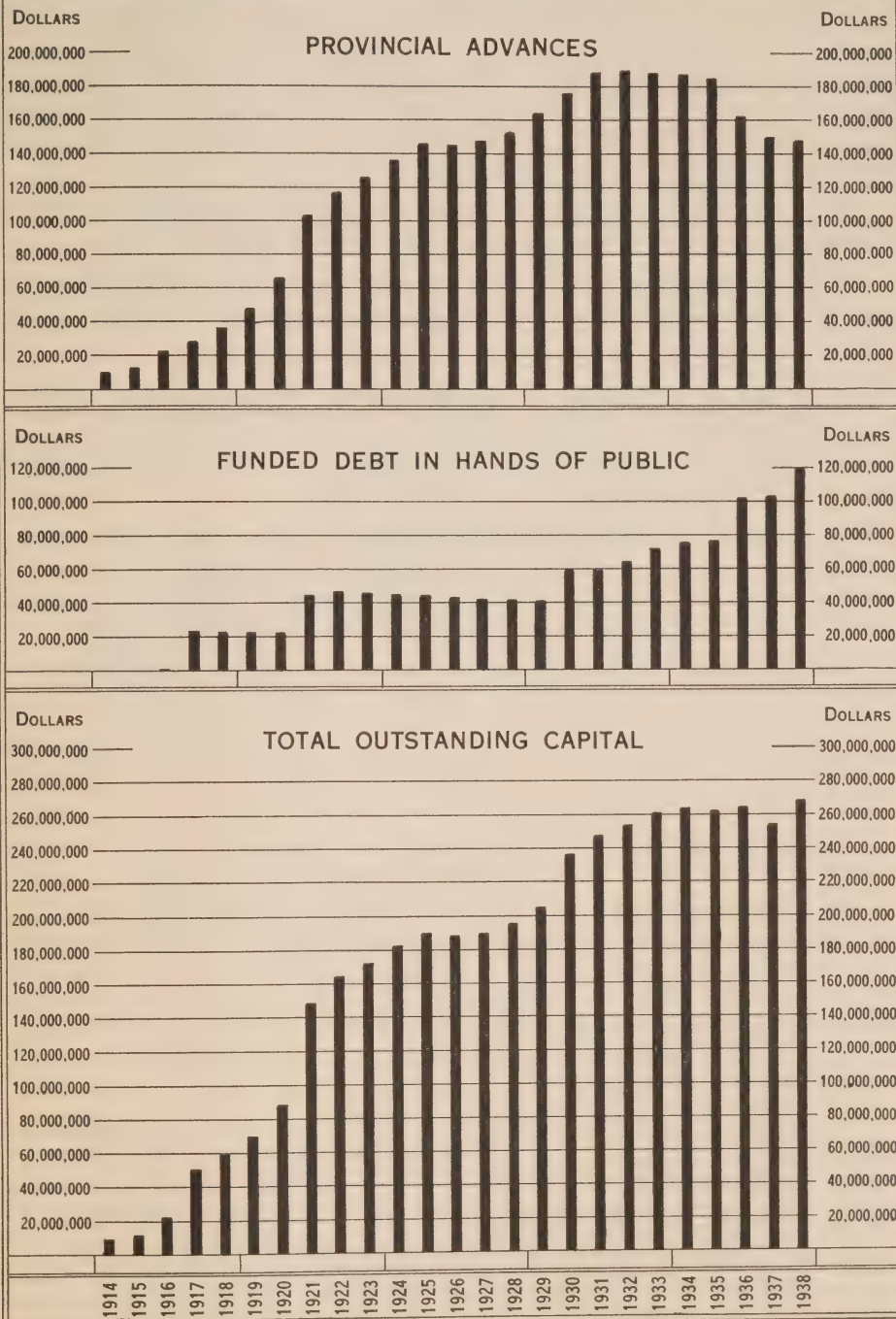
The Thunder Bay System comprises the cities of Port Arthur and Fort William, adjacent rural sections, the village of Nipigon, and the mining district of Longlac. Two developments on the Nipigon river supply power.

A small rural district known as *Manitoulin Rural Power District* on Manitoulin island in the northern area of lake Huron is served by the Commission as an independent unit.

Northern Ontario Properties

In addition to its operations on behalf of the partner municipalities, the Commission, under an agreement with the Province, holds and operates the Northern Ontario Properties in trust for the Province. For the purposes of financial administration these properties are treated as one unit. The Northern Ontario Properties lie in the portion of the Province north of Lake Nipissing and French River areas, exclusive of the territory served by the Thunder Bay system. The principal areas in this vast territory at present receiving service are

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
PROVINCIAL ADVANCES AND FUNDED DEBT



the *Nipissing District* centering around the city of North Bay on the shore of lake Nipissing; the *Sudbury District* comprising the city of Sudbury and the adjacent mining area known as Sudbury Basin; the *Abitibi District* comprising the territory served by 25-cycle power from the Abitibi Canyon development, together with a small area in the southern portion of the district of Sudbury in which mining properties are served with 60-cycle power; the *Patricia District* comprising the territory within transmission distance of the Ear Falls development at the outlet of Lac Seul on the English river including the Red Lake mining area, and *St. Joseph District* comprising the territory immediately north of lake St. Joseph in the territorial district of Patricia served with power from a development at Rat Rapids on the Albany river.

The geographic boundaries of the various systems are shown on the map of transmission lines and stations at the back of the Report.

The power supplies for the systems and Northern Ontario districts are listed in the first table of Section II of the Report on pages 8 and 9.

The Annual Report

The table of contents, pages xxiii and xxiv lists the matters dealt with in the Report. At the end of the Report there is a comprehensive index. To those not conversant with the Commission's Reports, the following notes will be useful.

In Section II, pages 6 to 58, dealing with the operations of the systems, are a number of diagrams showing graphically the monthly loads on the several systems and districts. Tables are also presented showing the amounts of power taken by the various municipalities during the past two years.

The rural distribution work of the Commission has proved of widespread interest and special reference to this is made in Section III on pages 67 to 89.

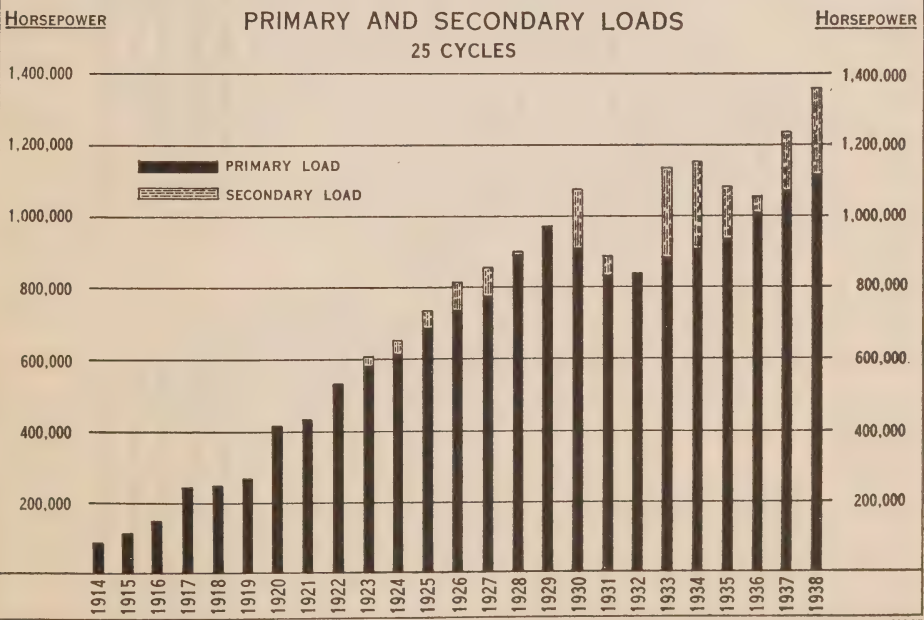
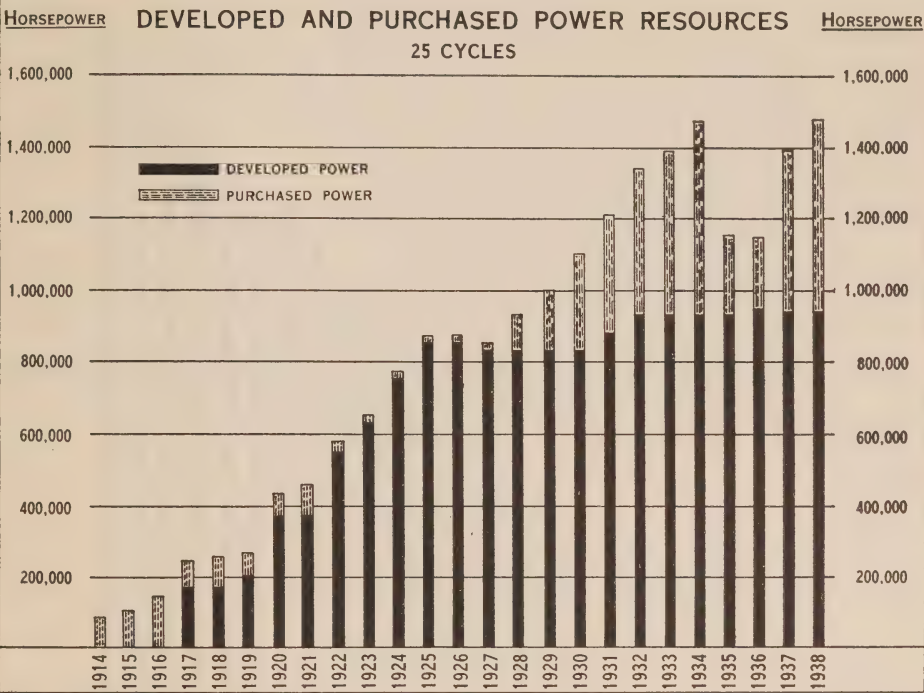
In Sections IV, V and VI will be found information respecting progress of work on new power developments and on transmission system extensions, together with photographic illustrations.

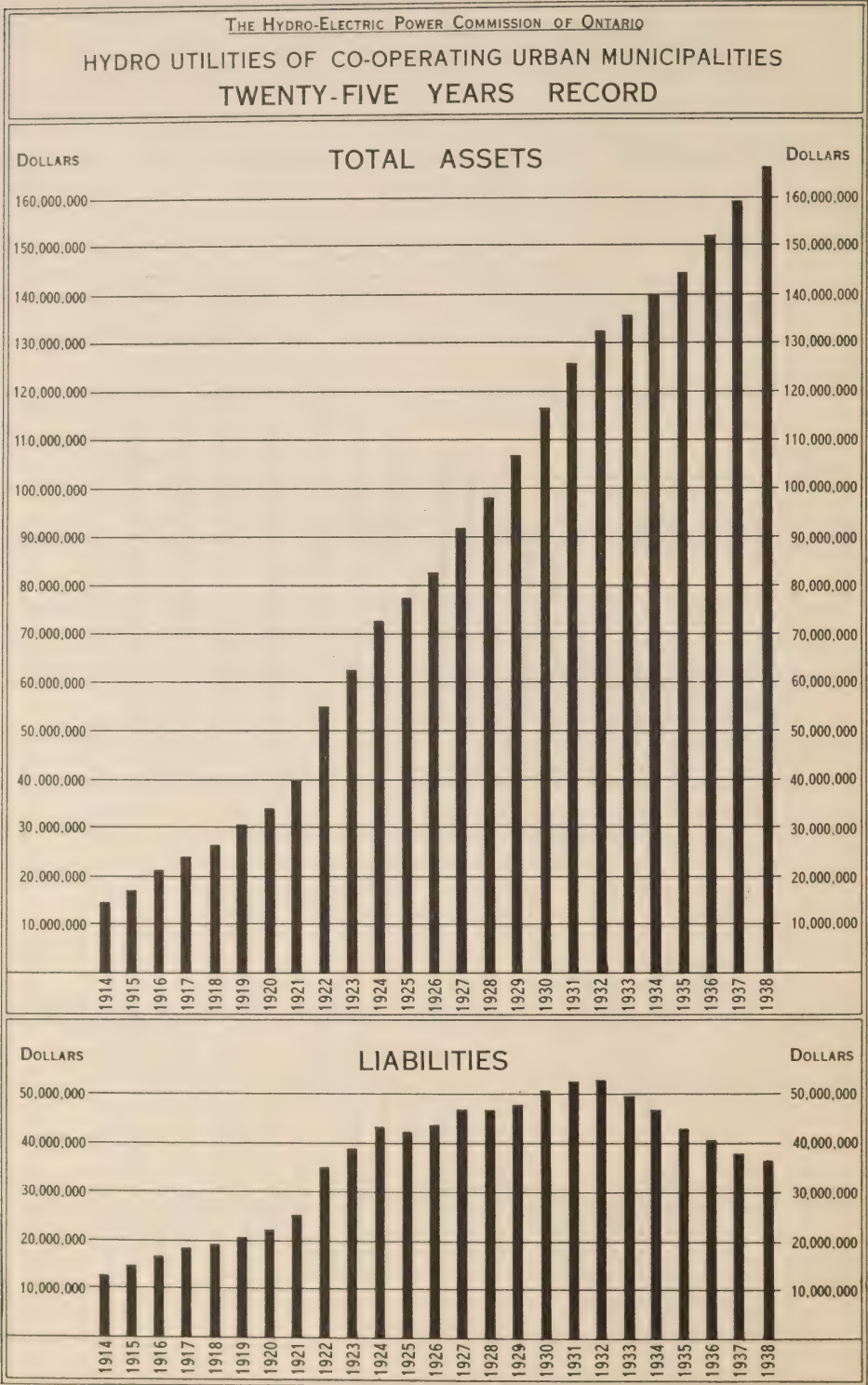
About one-half of the Report is devoted to financial and other statistical data which are presented in two sections IX and X already referred to above.

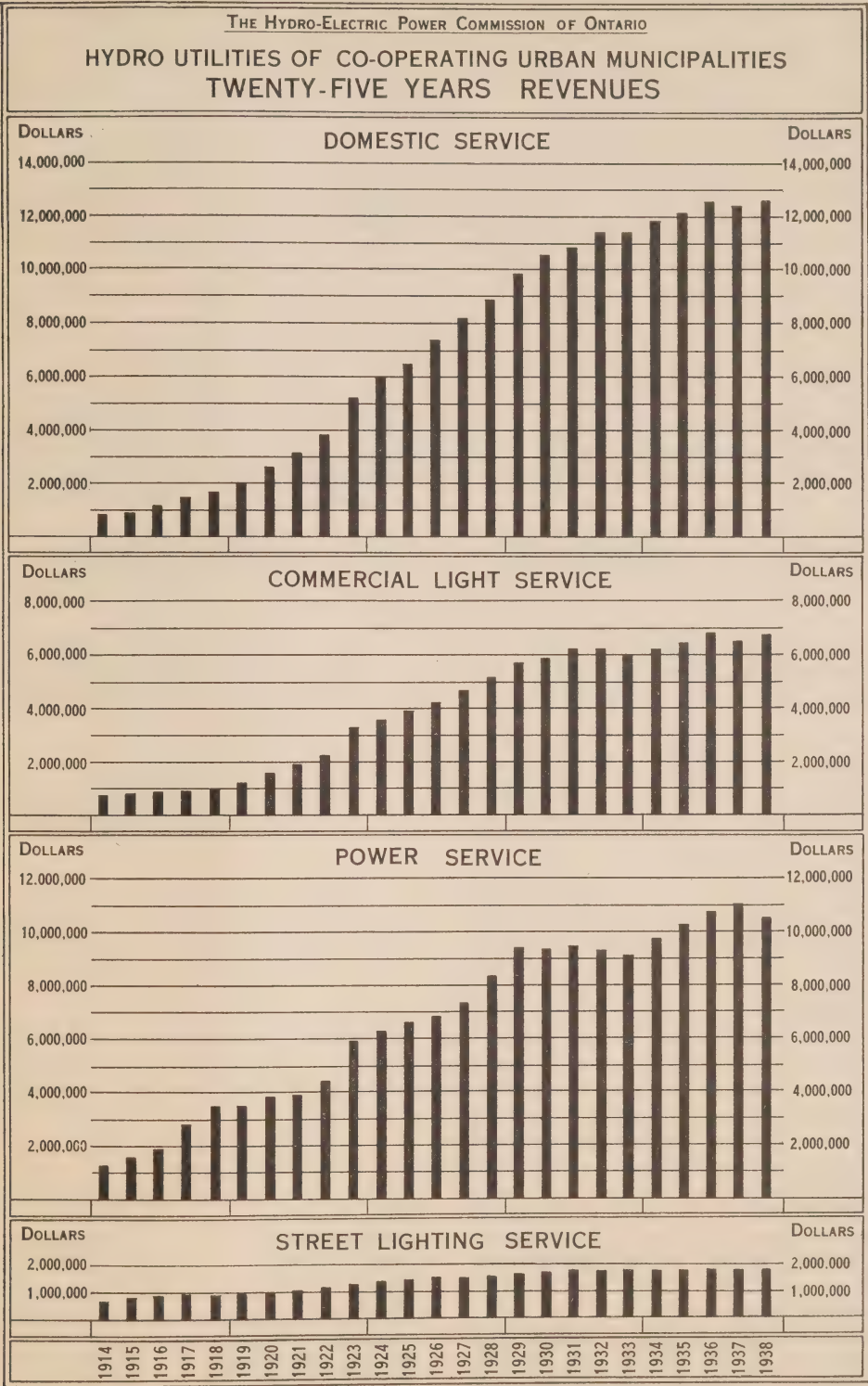
Frequent enquiries for the rates for service to consumers are received by the Commission. For the urban municipalities served by the Commission these are given in statement "E" starting on page 396. For the rural power districts they are given in a table starting on page 82. Certain statistical data resulting from the application of the rates in urban utilities are given in statement "D". This statement is prefaced by a special introduction starting on page 378.

In its Annual Reports the Commission aims to present a comprehensive statement respecting the activities of the whole undertaking under its administration. Explanatory statements are suitably placed throughout the Report. The Commission receives many letters asking for general information respecting its activities, as well as requests for specific information concerning certain phases of its operations. In most cases these enquiries can satisfactorily be answered by simply directing attention to information presented in the Annual Report.

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
TWENTY-FIVE YEARS RECORD—NIAGARA SYSTEM







SECTION I

LEGAL

AT the 1938 Session of the Legislative Assembly of the Province of Ontario two Acts respecting The Hydro-Electric Power Commission of Ontario were passed. They are reproduced in full in Appendix I of this Report. The short titles of the said Acts are as follows:

The Power Contracts Validation Act, 1938, Chapter 27.

The Rural Power District Service Charge Amendment Act, 1938, Chapter 33.

The agreements between The Hydro-Electric Power Commission of Ontario and municipalities and corporations mentioned in the list hereunder given were approved by Order-in-Council, dated the 7th day of March, 1939.

CITIES
City of Kingston and The
Public Utilities Commission
of the City of Kingston....Nov. 1, 1937

TOWNS
Geraldton.....Nov. 29, 1937
Kearney.....June 7, 1938

VILLAGES
Beamsville.....Oct. 30, 1937
Delhi.....Feb. 7, 1938
Morrisburg.....Jan. 14, 1938
Newcastle.....Feb. 9, 1937

TOWNSHIPS
Alice and Fraser.....Sept. 24, 1938
Amherst Island.....Jan. 10, 1938
Assiginack.....June 27, 1938
Athol.....Mar. 2, 1938
Bayham.....Sept. 7, 1937
Binbrook.....Oct. 14, 1938
Bromley.....Dec. 6, 1937
Collingwood.....Dec. 3, 1937
Cramahe.....Aug. 26, 1938

Dysart.....Oct. 3, 1938
Elderslie.....Aug. 10, 1938
Elzevir and Grimsthorpe.....Aug. 29, 1938
Ennismore.....Mar. 26, 1938
Foley.....Oct. 1, 1938
Glanford.....Oct. 22, 1937
Howe Island.....Dec. 15, 1937
Kennebec.....Sept. 12, 1938
Lanark.....Aug. 27, 1938
Madoc.....May 30, 1938
Mara.....May 26, 1938
Nichol.....Nov. 15, 1937
Nipigon.....May 26, 1938
Oakley.....Sept. 24, 1938
Olden.....Feb. 5, 1938
Palmerston and Canonto.....Oct. 12, 1937
Petawawa.....Aug. 20, 1938
Ross.....Dec. 27, 1937
Sandfield.....June 30, 1938
Sherbrooke.....April 18, 1938
South Marysburgh.....Aug. 17, 1937
Stanhope.....July 6, 1938
Tay.....Mar. 15, 1937
Tehkummah.....July 5, 1938
Westminster.....Mar. 19, 1938
Wolfe Island.....Jan. 25, 1938

CORPORATIONS

Canadian Atlas Steels, Limited.....	Nov. 18, 1937
Canadian Gypsum Company, Limited.....	Jan. , 1937
Canadian Steel Corporation, Limited.....	Mar. 1, 1938
The Exolon Company Incorporated.....	Nov. 1, 1937
Magnet Consolidated Mines (1936) Limited.....	Mar. 24, 1938
The National Steel Car Corporation Limited.....	June 10, 1938
Non-Skid Pavement Limited.....	July 27, 1938
Norton Company.....	Sept. 1, 1938
Phillips Electrical Works Limited.....	June 1, 1937

RIGHT-OF-WAY AND PROPERTY

The Commission as trustee for the co-operating municipalities of the several systems, and as trustee for the Provincial Government in Northern Ontario has vested in it, or controls through ownership of subsidiary companies, a large amount of real estate throughout the Province. This real estate comprises power sites, storage basins, land held to avoid consequential damages, right-of-way and lands occupied by generating stations, transformer and distributing stations, and administration buildings. In respect to the 6,200 miles of high-voltage transmission lines, and the 15,000 miles of distribution lines in rural power districts, the Commission's rights vary widely and include rights derived from direct ownership of right-of-way, rights held through easements, and licenses of occupation with the privilege to overhang or tree trim thereon.

The Commission, where vested in the fee, endeavours to obtain from the lands under its jurisdiction the maximum revenue consistent with its own beneficial use. Lands which have come into the Commission's possession, and which are not immediately required for its purposes are, where possible, leased until the need arises for their use, and an endeavour is made to dispose of all lands not required.

The acquirement and administration of land owned, leased or controlled involves surveys, investigation of title, registrations, record, assessment and taxes.

In connection with the transmission and distribution networks throughout the Province, it is frequently necessary to obtain the approval of such controlling bodies as the Board of Transport Commissioners for Canada, Ontario Municipal Board, Department of Transport, Department of Public Works, Department of Indian Affairs, Department of Crown Lands or other corporate body having jurisdiction over the lands involved.

The Year's Operations

Acquisitions of property by the Commission were greatly increased during the past year, owing to the construction of several important tie-lines. Requirements for right-of-way in connection with distribution lines resulted in an increase of 100 per cent in the number of pole line easements taken.

Power Development Lands

Claims respecting a number of properties abutting Chats lake on the Ontario side were settled.

In connection with the new power development for the Georgian Bay system a large area of land adjoining Ragged Rapids was acquired from private owners for the erection of the dams, power house, operator's cottage, and other associated structures. In the immediate vicinity of the development, and adjacent to the junction of the Musquash and Moon rivers, rights were obtained to flood land up to the higher water level that would result from the operation of the dam. Arrangements were made with the Canadian Pacific Railway for a temporary private siding at Bala for construction purposes.

At Eugenia Falls development additional property was acquired for the extension of the present site occupied by operators' dwellings.

By agreement with the Canadian National Railways a temporary siding adjoining Coniston generating station was made for the purpose of handling materials in the re-construction of the dam.

Many properties were affected by the construction of the reservoir at Frederick House and Night Hawk lakes in connection with the Abitibi Canyon development. Claims with respect to these were settled.

Transmission and Distribution Lines

The construction of several important transmission lines, and a greatly increased mileage of rural distribution lines involved an unusually large amount of property negotiation by purchase, lease or easement. Easements totalling 3,346 were secured together with 642 crossing agreements and 346 tree trimming rights. Settlements were arranged in 250 damage claims.

An important agreement was made with the Corporation of the City of Toronto for the occupation of municipally-owned lands in connection with the new 110,000-volt, double-circuit steel tie-line between Leaside and Toronto-Strachan transformer stations, which was erected in 1938 and provides the Commission with an important eastern entrance for its power supplies into the city of Toronto. A term agreement was also entered into with the Canadian National Railways, the Canadian Pacific Railway Company, and the Toronto Terminals Railway for the occupation of railway properties in connection with the construction and maintenance of this line.

An important property immediately west of the Humber river was acquired to complete the final link of the right-of-way between York and Toronto Strachan transformer stations.

Other transmission lines of importance in connection with which various rights were acquired are as follows:

Niagara system—Toronto Power transformer station to Niagara transformer station, Mount Joy distributing station to Green River distributing station, St. Thomas transformer station to Yarmouth junction, Yarmouth junction to St. Thomas Provincial Hospital distributing station, Bloomsburg junction to Delhi distributing station, Brampton to Brampton distributing station and Weston junction to National Steel Car Corporation.

Georgian Bay System—Big Chute generating station to Matchedash junction.

Eastern Ontario System—Sills Island generating station to Trenton transformer station, Auburn switching station to Cavan junction, Perth Road junction to York Road junction and Plat junction to Morrisburg distributing station.

Northern Ontario Properties—Patrolman's cottage sites at Island Falls, Hunta and Matachewan.

A large number of easements for pole rights were taken for the first time in the extension of rural lines on Manitoulin island and the North Bay rural power district.

In the many negotiations conducted, only two owners appealed to the valuator, appointed under The Power Commission Act.

Station Sites

Distribution station sites were purchased for an extension to Pinedale, and for new stations at Ilderton, Green River, Mount Pleasant, Malton, Delhi, Galt, Port Carling, Kilsyth, Consecon, and Geraldton.

Service and Office Buildings

A property was acquired in Toronto on Bloor street west in the vicinity of Sterling road for a construction service building. A tri-partite agreement was entered into covering a siding which will provide railway service into the premises.

A large number of leases were entered into throughout the Province to provide office space and storage facilities for the operation of rural district and inspection offices.

Sales and Leases

As in the previous year the policy of disposing of excess lands was continued and a number of properties in this category were sold, the most important being the former steam plant on Guise street, Hamilton.

Lands owned by the Commission in connection with power developments and also lands comprising the several hundreds of miles of owned right-of-way, not wholly occupied by the Commission's equipment, were leased wherever possible with the dual object of obtaining increased revenue and decreasing maintenance costs. Practically all of the residences owned by the Commission were occupied under lease. The number of income bearing leases approximates 1,500 and the annual revenue is about \$90,000.

Residences and other buildings in urban and rural districts, chiefly in the Toronto and Niagara areas, were maintained in good condition and in many cases were rehabilitated and improved in order to meet modern requirements and produce increased revenue.

Surveys

A large number of surveys of lands owned, and some of properties being acquired, were made. Specifications respecting a number of canal and river crossings were completed for Government approval.

In practically all cases where surveys of lands held in fee were made, standard H.E.P.C. monuments were placed to mark the boundaries; some 350 monuments were placed.

In the case of sales to adjacent owners of former Toronto Suburban Railway right-of-way upon which transmission line rights have been retained, monuments were placed to establish property lines. The balance of this right-of-way, transferred to the Department of Highways, will be marked by that Department.

The more important field surveys made were in connection with the following properties:

Generating Stations and Sites: Wasdell Falls, Ragged Rapids, Operator's Residence at Eugenia, Lakefield, Young's Point, Burleigh Falls, Frankford, Campbellford and Calabogie.

Transformer and Distribution Stations: Brampton, Perch, Wellesley, Galt, Hamilton Gage, Delhi, Mount Pleasant, Malton Air Port, Green River, Port Carling, Priceville, Kilsyth, Belleville, Consecon, Renfrew, Sturgeon Falls, Treadwell, Timmins, Vimy Gold Mine, Kirkland Lake and North Bay (3 sites).

Transmission Lines: Leaside to Strachan Ave. (N. 34x3); Trent Canal overhead crossing at Heely Falls; Timmins distributing station southerly 2.5 miles (F.A. 19x25); Rochester Heights, Timmins (F.A. 72x19); Smokey Falls Station to Crystal Falls (F.Z. 57x73).

Submarine Cable Crossings: Sparrow Lake, Amherst Island, Wolfe Island, Chemong Lake, Gannons Narrows, Howe Island and Rideau Lake.

Construction Service Building: Bloor St., Toronto (K. 17).

Miscellaneous: Properties at Niagara Falls, Sunnyside Toronto and Stamford Township; Waterdown transmission line boundaries, Severn Falls C.P.R. road crossing, Clear Lake Dam (damage claim), Braie Lake (damage claim), Base Line at Coniston and Patrolman's residence at Warren.

Records

The following is a brief statistical summary of the records made:

	Number
1. Current deeds, including plans attached, copied and recorded.....	104
2. Plans and descriptions prepared for deed of land and easements for transmission lines and all other developments:	
(a) Purchase of land.....	63
(b) Easements and leases.....	245
3. The following were indexed:	
Deeds of land.....	189
Tree trimming rights (copies supplied Operating dept.).....	582
Transmission line easements.....	960

Taxes

Assessments and corresponding taxes covering Commission owned properties were received from 251 municipalities. Where assessments were not in conformity with the provisions of The Power Commission Act, appeals were made, resulting generally in a reduction of assessment and taxes.

SECTION II

OPERATION OF THE SYSTEMS

OPERATION of the plants on the Niagara river was severely affected by an unprecedented ice jam in the river which flooded the Ontario Power plant in January and disabled it for months, while at the same time the output of other Niagara river generating stations was curtailed so that the maximum simultaneous loss to the Commission in generating capacity on the Niagara system approximated 255,000 horse-power. Ample reserve capacity, however, enabled all primary power demands to be met and no customer suffered any reduction in primary load.

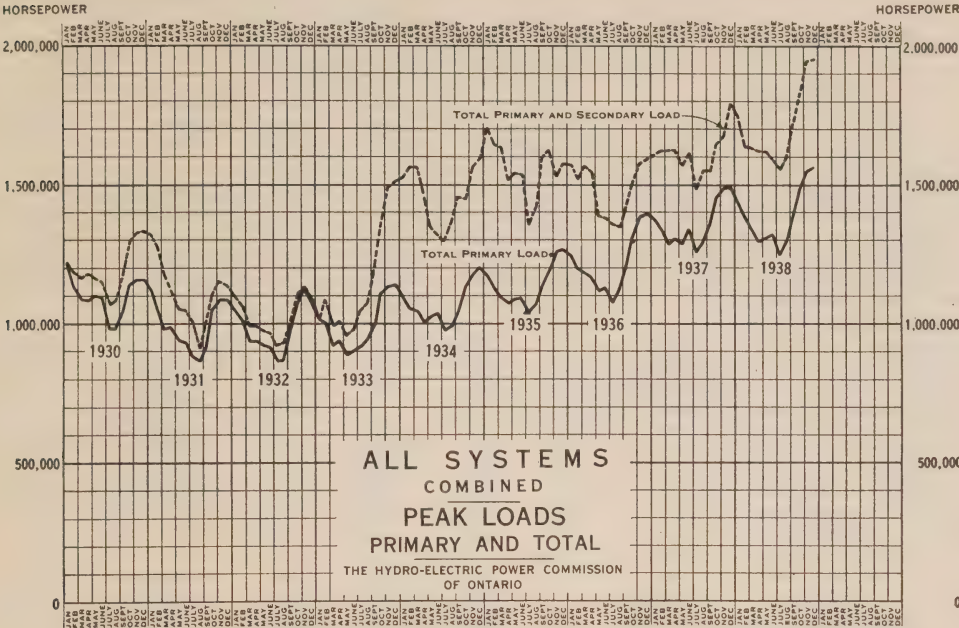
There were no serious interruptions to service on any part of the Commission's undertakings.

Rainfall, which was considerably above normal during July, August and September, increased the stream flow in the Trent river and it was possible to operate the generating stations in the Trent valley at somewhat higher load factors than is usual during these months. On the Georgian Bay system, stream flow conditions were better than in the previous year. This resulted in an increased output of the generating stations on this system which was more than sufficient to meet the additional energy demand over the previous year and consequently less energy was required from the Niagara system. Normal conditions prevailed on other systems except on the Nipissing district where water conditions were below normal.

Load Conditions

The total energy supplied to all systems, both generated and purchased, amounted to 7,582,072,573 kilowatt-hours or 2.2 per cent below last year. The yearly peak load (i.e. the sum of the peak loads of all systems) was 1,851,618 horsepower, the largest ever carried and 9.3 per cent in excess of last year's peak. Larger sales of secondary power towards the close of the year resulted in higher total peaks but had comparatively little effect on the average load for the year.

The primary load has the greatest significance in relation to revenue and general industrial conditions and is distinguished from the total load in that it excludes secondary power supplied only as and when available. The aggregate energy supplied for primary load to all systems amounted to 6,124,187,686 kilowatt-hours, showing a slight increase of 0.2 per cent over the previous year.



The primary peak load (i.e. the sum of all system primary peak loads) was 1,533,174 horsepower, an increase of 65,000 horsepower or 4.4 per cent over the previous year. Both primary peak and average load were greater than in any previous year.

Although the year's increase in energy for primary consumption was insignificant, a survey of the monthly peak loads through the year as shown by the accompanying graph gives a more encouraging picture, especially at the close of the year. In the spring and summer months the primary load receded to levels below those of the like period of the previous year, apparently due to an industrial recession. By fall there was an improvement in load conditions which continued to gain ground through November and December, 1938, the December primary peak load being 5 per cent greater than that of December, 1937.

Details regarding the amount of power generated and purchased and the loads of each system are given in the following sections of this report and in the load curves shown in connection with each system.

Municipal Load Trends

Tables are given in this section showing the peak loads of the various municipalities. This year a change has been made in the form of these tables in order to portray better the load trend. In previous reports only the October peak loads of the municipalities were shown. The reason for discontinuing the comparison of October peak loads is that they do not necessarily show the maximum load of the municipality for the year, and any unusual conditions during one month may destroy the value of the table as an indication of general load trend.

TOTAL POWER GENERATED

HYDRO-ELECTRIC GENERATING PLANTS

Generating plants	Maximum normal plant capacity Oct. 31, 1938 horsepower	Peak load during fiscal year		Total output during fiscal year	
		1936-37 horse- power	1937-38 horse- power	1936-37 kilowatt- hours	1937-38 kilowatt- hours
Niagara system					
Queenston-Chippawa—Niagara river.....	500,000	500,000	497,319	2,696,986,000	2,326,916,000
"Ontario Power"—Niagara river.....	180,000	177,614	175,603	806,435,000	389,325,000
"Toronto Power"—Niagara river.....	150,000	145,442	148,794	234,310,000	405,610,000
Chats Falls (Ontario half)—Ottawa river.....	108,000	117,962	112,601	405,905,450	352,019,350
DeCew Falls—Welland canal.....	50,000	47,319	48,257	131,426,000	124,851,000
Steam Plant—Hamilton.....	24,000	10,724	1,609	—2,639,400	22,000
Georgian Bay system					
South Falls—South Muskoka river.....	5,600	5,563	5,831	22,916,040	27,688,320
Hanna Chute—South Muskoka river.....	1,600	1,743	1,609	7,082,400	8,241,600
Trethewey Falls—South Muskoka river...	2,300	2,145	2,145	10,548,000	11,128,800
Ragged Rapids—Musquash river†.....	5,000	.....	5,630	.....	927,800
Bala No. 1 and 2—Muskoka river.....	600	590	603	3,110,920	3,136,760
Big Chute—Severn river.....	5,800	5,791	5,791	23,573,040	23,404,080
Wasdells Falls—Severn river.....	1,200	1,092	1,072	4,517,400	3,457,680
Eugenia Falls—Beaver river.....	7,800	7,466	7,547	14,782,000	15,086,000
Hanover—Saugeen river.....	400	422	409	450,720	511,296
Walkerton—Saugeen river.....	500	483	489	2,116,200	2,066,200
Eastern Ontario system					
Sidney—Dam No. 2—Trent river.....	4,500	5,228	5,228	19,996,500	22,146,600
Frankford—Dam No. 5—Trent river....	3,500	3,887	3,861	15,896,450	18,593,700
Sills Island—Dam No. 6—Trent river....	2,100	2,145	2,212	452,000	9,939,000
Meyersburg—Dam No. 8—Trent river.....	7,000	8,150	8,043	37,292,910	40,533,040
Hague's Reach—Dam No. 9—Trent river.....	4,500	4,826	5,295	23,177,190	24,152,800
Ranney Falls—Dam No. 10—Trent river.....	11,500	10,992	11,944	48,558,300	52,556,540
Seymour—Dam No. 11—Trent river.....	4,200	4,290	4,692	20,025,600	19,917,600
Heely Falls—Dam No. 14—Trent river....	15,300	16,086	16,186	59,560,740	66,238,900
Auburn—Dam No. 18—Trent river.....	2,400	2,654	2,788	11,092,920	13,084,310
Douro—Lock No. 24—Otonabee river....	900	1,072	1,072	1,017,000	1,043,400
Lakefield—Otonabee river.....	2,300	2,413	2,413	8,622,910	11,258,640
Young's Point—Otonabee river.....	500	576	603	416,950	118,650
Fenelon Falls—Dam 30—Sturgeon river..	1,000	938	938	2,506,550	2,275,050
High Falls—Mississippi river.....	3,000	3,204	3,264	12,526,320	13,106,640
Carleton Place—Mississippi river.....	400	389	509	11,864	2,520
Calabogie—Madawaska river.....	5,400	6,099	5,932	20,572,830	19,620,070
Galetta—Mississippi river.....	1,100	1,233	1,253	2,640,000	2,491,800
Thunder Bay system					
Cameron Falls—Nipigon river.....	73,500	79,088	76,407	404,303,000	356,173,000
Alexander—Nipigon river.....	50,000	53,217	53,887	307,305,600	270,743,600
Northern Ontario properties					
Nipissing district					
Nipissing—South river.....	2,100	2,252	2,239	7,329,880	7,619,160
Bingham Chute—South river.....	1,200	1,330	1,314	3,636,480	3,738,560
Elliott Chute—South river.....	1,700	1,930	1,917	3,276,000	2,891,400
Sudbury district					
Coniston—Wanapitei river.....	5,900	5,764	5,630	25,193,990	20,605,300
McVittie—Wanapitei river.....	3,100	3,217	3,150	19,289,346	16,082,250
Stinson—Wanapitei river.....	7,500	7,641	7,399	24,768,404	21,492,000
Crystal Falls—Sturgeon river.....	10,000	2,413	6,971	151,800	17,326,170
Patricia district					
Ear Falls—English river.....	9,000	5,013	5,965	22,504,740	27,910,900
Abitibi district					
Abitibi Canyon—Abitibi river.....	240,000	161,796	172,252	761,051,900	696,148,500
St. Joseph district					
Rat Rapids—Albany river.....	3,000	2,969	3,097	12,360,060	14,955,780
Total generated.....	1,519,400	*	*	6,237,058,004	5,467,157,766

*Because the peak loads on the various generating plants and purchased power sources usually occur at different times, the sum of the individual peak loads would not represent the sum of the peak loads on the systems. These, in the case of each system, must relate to the maximum load occurring at any one time. Consequently, the column headed "Peak load" is not totalled.

†One unit of the newly constructed Ragged Rapids plant placed in service October 18, 1938.

AND PURCHASED—ALL SYSTEMS

POWER PURCHASED

Power source	Contract amount horsepower Oct. 31, 1938	Total purchased	
		1936-37 kilowatt-hours	1937-38 kilowatt-hours
Canadian Niagara Power Co.....	20,000	124,114,800	85,139,200
Gatineau Power Co.—25-cycle.....	165,000	629,556,200	701,642,880
Ottawa Valley Power Co.....	108,000	284,699,350	352,019,350
MacLaren-Quebec Power Co.....	40,000	183,301,000	180,097,000
Beauharnois Light, Heat and Power Co.....	125,000	.....	509,900,000
Welland Ship Canal*.....	.....	71,000	0
Campbellford Water & Light Commission....	800	952,800	3,699,700
Fenelon Falls Light, Heat & Power Commission*	.....	6,800	1,050
M.F. Beach Estate.....	500	1,446,400	1,567,200
Rideau Power Co.**.....	.....	3,051,600	2,563,600
Ottawa & Hull Power & Mfg. Co.....	20,000	63,352,800	65,019,600
Gatineau Power Co.—60-cycle.....	60,000	190,355,500	195,820,270
Orillia Water, Light & Power Commission†....	.....	197,200	124,380
Manitoulin Pulp Co.....	205	333,600	444,100
Abitibi Power & Paper Co.....	500	972,722	158,557
Kaministiquia Power Co.‡.....	.....	31,104,480	16,717,920
Total purchased.....	540,005	1,513,516,252	2,114,914,807

Power purchased, contract amount, 1938..... 540,005 horsepower

Maximum normal plant capacity, 1938..... 1,519,400 “

Total available capacity generated and purchased, 1938.. 2,059,405 “

Total available capacity generated and purchased, 1937.. 1,816,175 “

Difference (increase)..... 243,230 “

Total energy purchased, 1938..... 2,114,914,807 kilowatt-hours

Total energy generated, 1938..... 5,467,157,766 “ “

Total energy generated and purchased, 1938..... 7,582,072,573 “ “

Total energy generated and purchased, 1937..... 7,750,574,256 “ “

Difference (decrease)..... 168,501,683 “ “

*Emergency use.

**Contract expired and Commission ceased taking power from the Rideau Power Company on September 14, 1938.

†Reciprocal arrangement for surplus power and emergency use.

‡Purchased on kilowatt-hour basis.

CAUTION: The figures for “Maximum normal plant capacity” reflect the capacity of the various plants under the most favourable operating conditions which can reasonably be considered as normal, taking into consideration turbine capacity as well as generator capacity, and also the net operating head and available water supply.

Owing, among other things, to changes in generating equipment due to wear and tear or the replacement of parts, also to changes in limitations governing water levels and effective net heads, the maximum normal plant capacity is not a fixed quantity but is one which must be revised from time to time.

It is particularly important to bear in mind that the column headed “Maximum normal plant capacity” cannot be taken as an indication of the dependable capacity of the various plants: in some cases, it is, but in many cases it is not. Chief among the factors which govern the maximum dependable capacity of a hydraulic power plant and which are not reflected in column headed “Maximum normal plant capacity” are abnormal variations in water supply and operating limitations encountered when plants are so situated on a given stream as to be affected by one another.

The tables given herein show the maximum load of each municipality in a six months' period ending December 31, 1938 and in the corresponding period of 1937. Under normal conditions the peak load of the calendar year in nearly all municipalities occurs in the latter half of the year, but in any case the peak loads recorded during this period, year after year, will give a more reliable indication of load trend than would either the October peak or the peak for the calendar year, which in the case of a downward trend might occur in December one year and in the following month for the next calendar year.

FORESTRY DIVISION

The Forestry division continued its regular transmission and rural line clearing operations to protect the Commission's lines, equipment and service from tree interference.

Reforestation was continued on non-revenue producing lands in the Niagara system. Work was also carried out on generating and transformer station grounds for the preservation and maintenance of trees and shrubs.

A detailed description of the work performed will be found in the succeeding paragraphs.

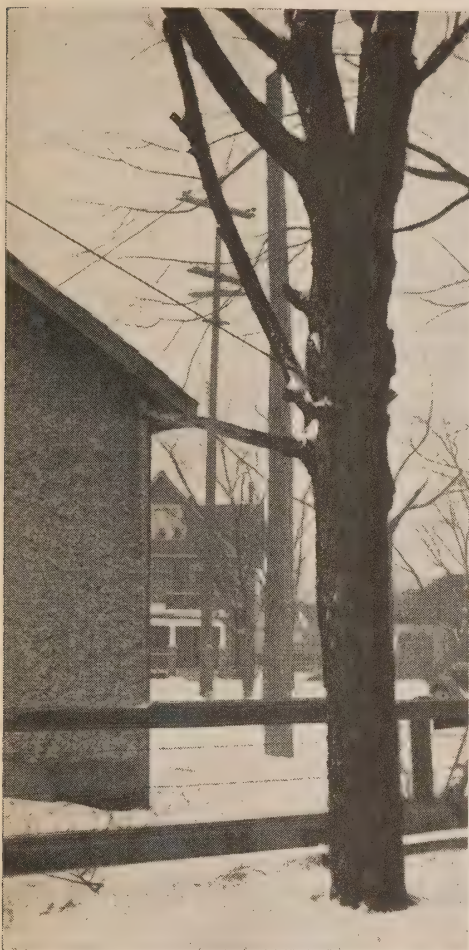
Transmission and Rural Line-Clearing Operations

The year's operations involved treatment of 79,800 trees and 316 pole spans of underbrush spread over 3,299 miles of power transmission, rural distribution and telephone line. The average pruning cost, including all expenditures for labour, material, expense and forestry overhead, exclusive of cabling structurally weak crotched trees, diseased tree removals and underbrushing, was \$1.05 per tree.



DISEASED TREE HAZARD

Trees similar to the one shown constitute a menace to life, service and property. A systematic diagnosis and removal of diseased trees prevents prolonged service interruptions and serious damage



Wrong



Right

ATTACHING GUYS TO TREES

The above illustrations show wrong and right methods of attaching guys for poles or wire fencing to trees. The thin cambium layer immediately beneath the bark is essential to the circulation of nourishment and the life of the tree. Cutting or compressing the cambium layer around the complete circumference of the tree will stunt or kill it, while a hole in to the centre of the tree for a screw eye, if properly sealed, does little harm

Rural work was noticeably increased by reason of the county and township roads taken over by the Department of Highways, and the construction of new lines on the King's Highways. This additional work involves 28,200 trees spread over approximately 509 miles of line.

During the course of line-clearing operations, rural linemen were given elementary lectures and instructions in the approved safety rules and scientific methods of treating trees for line clearance. This was supplemented by a practical training program consisting of a minimum period of three weeks or 144 hours, under the supervision and direction of foresters.

New Construction Line-Clearing Operations

Operations were performed to obtain clearance for approximately 111 miles of new transmission and rural line. The work involved treatment of 3,800 trees, removal of 19 pole spans of underbrush and 524 diseased and dangerous trees at an average cost of \$1.88 per tree, including all expenditures for labour, material, expense and Forestry overhead.

Reforestation

Reforestation operations involved planting of approximately 25,000 coniferous and deciduous trees to replace losses at bridge approaches and along the Chippawa-Queenston canal, also some small extensions on property adjacent to DeCew and Queenston generating stations and Ontario Power and Toronto Power transformer stations.

The entire cost of the work amounted to \$1,063.

Municipal Hydro Systems

Line-clearing operations were performed for Beamsville, Burlington, Exeter, Grimsby, Highgate, Jarvis, New Toronto, and Ridgetown on the Niagara system; Alliston, Beaverton, Chatsworth, Flesherton and Wiarton on the Georgian Bay system; Arnprior and Peterboro on the Eastern Ontario system.

The work involved treatment of 3,066 trees spread over approximately 52 miles of distribution line. The cost amounted to \$2,969, an average cost of 97 cents per tree.

RADIO COMMUNICATION

The Commission short-wave radio stations at Toronto and in the generating stations at Cameron Falls, Ear Falls and Rat Rapids have continued to operate satisfactorily.

This equipment provides the only means of communication with the plants at Ear Falls and Rat Rapids during periods in the spring and fall when, owing to seasonal climatic conditions, mail and transportation services from these points are suspended.

NIAGARA SYSTEM

Operation

During the year there was no extensive major service interruption to customers in the Niagara system. On April 8 and 9, a snow and sleet storm, which was most severe in the area extending between Niagara Falls and Dundas, was the cause of a number of 110,000-volt line outages, which in one instance resulted in an interruption to the majority of the customers supplied from the 110,000-volt stations. The usual electrical storms during the summer were the cause of numerous interruptions, but in general the interruptions were of short duration, and the little damage done was confined to the low-voltage lines and equipment. There was no complete interruption to service on

the 220,000-volt lines during the year although there were fourteen individual circuit outages, eleven of which were due to lightning.

In general the Niagara river plants have been operated in conjunction with the Quebec power sources during the year to meet system load requirements to the best advantage from the water available. An ice jam in the Niagara river in January flooded the Ontario Power plant and disabled it for months. Details regarding flooding and rehabilitation are given in this Report under the heading "Ontario Power Station."

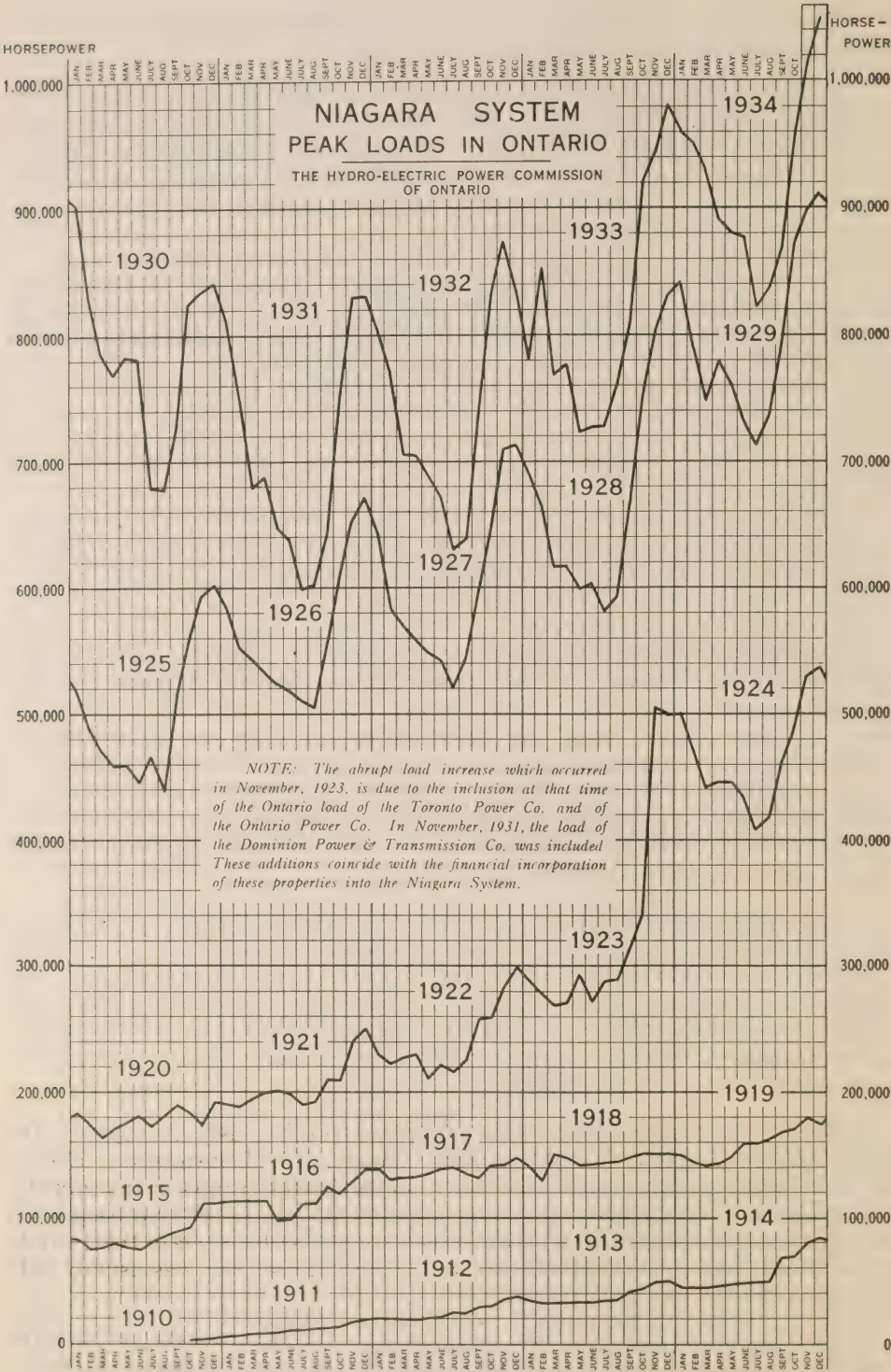
On December 1, 1937, the contract demand under the Gatineau Power Company contract was increased from 140,000 to 165,000 horsepower, and on December 14 the Commission commenced taking 125,000 horsepower under a new contract with the Beauharnois Light, Heat and Power Company. On December 12, 1937, arrangements were made with the Gatineau Power Company for the delivery of about 27,000 horsepower of 60-cycle power at ValTetreau for use on the Eastern Ontario system in lieu of delivering 25-cycle power to the Niagara system under the 25-cycle contract.

The Chats Falls generating station has been operated throughout the year to the best advantage, as governed by the Ottawa river flow, and the ability to utilize this station's output in conjunction with eastern sources of supply. Natural conditions on the Ottawa river drainage basin were better than average during the fall months of 1937. As a result the Quinze and Temiskaming reservoirs entered the winter season at approximately full reservoir elevation. The natural yield during the winter months was also higher than average, thus requiring less withdrawal from storage to maintain satisfactory flow conditions at Chats Falls. During the winter season the flow was approximately sufficient to meet plant energy requirements. Spring run-off began on March 21, or approximately ten days earlier than normal, and reached a maximum on April 24 of 146,970 cubic feet per second. The minimum flow of 18,430 cubic feet per second occurred on September 5. On the whole, Ottawa river flow conditions were very satisfactory over the year.

The frequency-changer set at Chats Falls was available as a reserve source of supply for the Eastern Ontario system during the year. The set was operated on several test runs in the fall of 1937 and on two occasions it was required for emergency service. During the latter part of October, 1938, it was frequently operated when the Gatineau Power Company placed limitations on the transfer of 60-cycle energy to the Eastern Ontario system in lieu of 25-cycle energy to the Niagara system.

DeCew Falls generating station operated continuously throughout the year, supplying power to the Dominion Power and Transmission division of the Niagara system. Load demands on this division in excess of the capacity of the DeCew Falls generating station were met by the 9,000-kv-a frequency-changer set at Niagara Falls. This set, which is supplied from one of the Toronto Power units, was used on practically every working day but was usually only required over the day peak period.

The Hamilton Steam station was available during the year as a limited standby reserve for the Dominion Power and Transmission division. The steam station rendered assistance on seven days of the year when the continuity of



Maintenance

Queenston Station

During the year all equipment in this station was available for service as and when required.

Generators and turbines were removed from service during the summer months for inspection and necessary maintenance work, as noted below:

Number	1	unit	from	September 20 to September 30,
"	2	"	"	August 12 to August 26,
"	3	"	"	September 8 to September 20,
"	4	"	"	August 26 to September 8,
"	5	"	"	August 2 to August 10,
"	6	"	"	May 24 to June 3,
"	7	"	"	July 4 to July 15,
"	8	"	"	July 18 to July 30,
"	9	"	"	June 18 to June 30,
"	10	"	"	June 6 to June 17.

All the above-mentioned machines and their allied equipment were given a complete inspection without dismantling. The turbines, governors, governor pressure control system, brake rings, lignum vitae bearings, packing, etc., were repaired where necessary. The generators, exciters and allied electrical equipment were all inspected and repairs made where required.

In addition to the above-mentioned work, a considerable amount of welding was carried out on the upper draft tube section of number 2 unit. The position indicator rod of the number 3 Johnson valve was replaced; some welding was necessary on one of the turbine runner vanes of number 4 unit. Repairs were required on the number 8 unit draft tube cone, consisting of replacing the shroud plates below the cone cap where they had been torn away.

Special screens were built and installed in the generator air intake ducts to prevent winged insects being drawn into the generators. A vacuum pump and cleaning tools were designed and built to clean these screens.

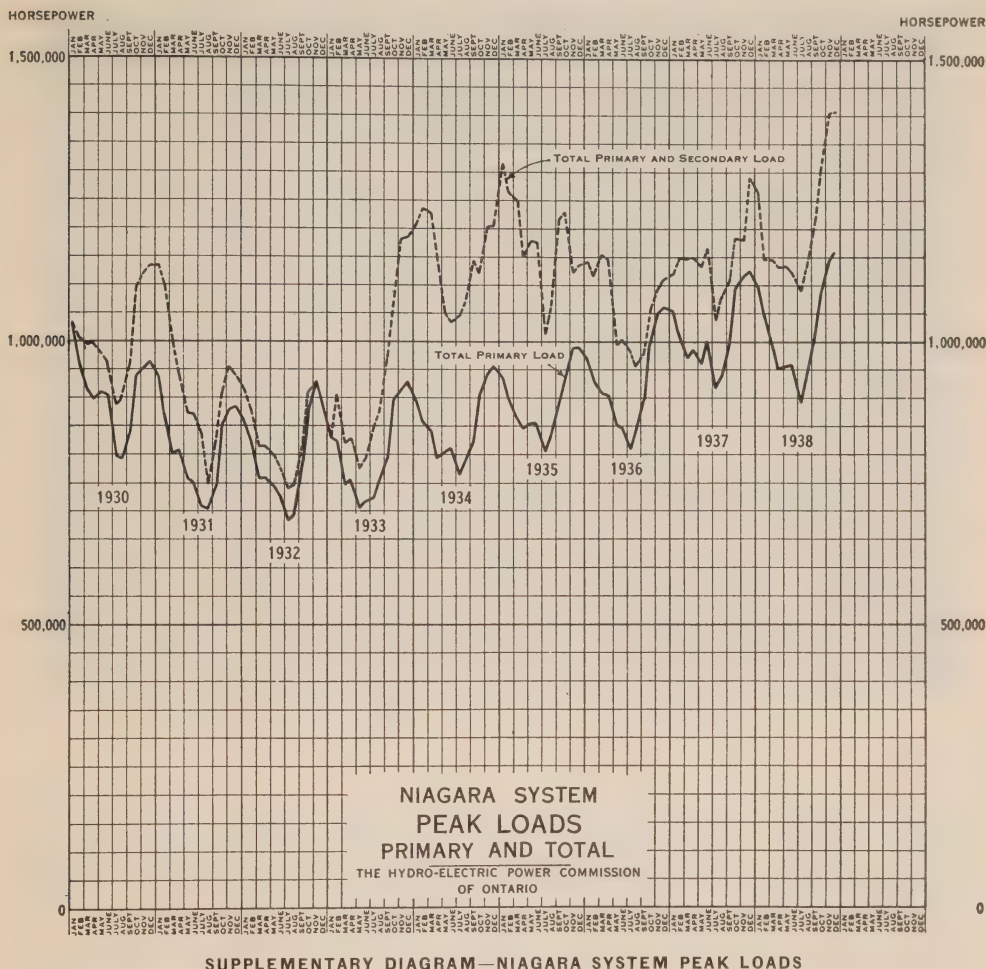
Two 110,000-volt oil circuit-breakers were equipped with special contacts to increase their rupturing capacity, and two further units will be equipped early in the coming year.

Transformers, oil circuit-breakers, cables, meters, relays and other miscellaneous apparatus were examined and repaired where necessary.

The remedial work on the cliff face between the penstocks was proceeded with during the summer. This work was necessary to prevent rock falling on the power house roof, due to gradual erosion of the cliff face. Buildings were painted and repaired as found necessary, and some work done on the railway siding leading into the plant.

In addition to supplying the plant requirements, the machine shop carried out a certain amount of work for the other plants.

Some concern existed during the period of high water and ice conditions in February and March, at which time the river level varied from twenty to thirty feet above normal. The only damage done was the lifting and breaking



Notes

TOTAL PRIMARY LOAD: Primary power is power which the Commission is under contractual obligation to supply and for which it is obligated to hold in reserve adequate capacity. The graph above includes only the actual delivery of such power, and does not include the amount by which the primary power contracts exceed actual deliveries.

TOTAL PRIMARY AND SECONDARY LOAD: Includes, in addition to the primary load, at-will power which the Commission is under no obligation to hold in reserve. Such power has been sold in Ontario and exported to Quebec and the United States. The above graph includes all secondary power and therefore differs from the graphs on pages 14 and 15 which show only the load in Canada

of the concrete tail-race covers, the undermining of railway tracks and the scouring of banks adjacent to the power house. At this time the south and east walls of the power house up to elevation 310 were reinforced by temporary timber construction. Also, as a precautionary measure, additional pump capacity was installed to assist permanent sump-pump equipment.

Connections were installed between transformer banks 3 and 4, and between 7 and 8, to provide a tie between these banks in case high water prevented the operation of equipment on the lower floors.



ONTARIO POWER GENERATING STATION—REHABILITATION

Figure 1—The interior of the powerhouse, facing the down-stream end, after the water had receded

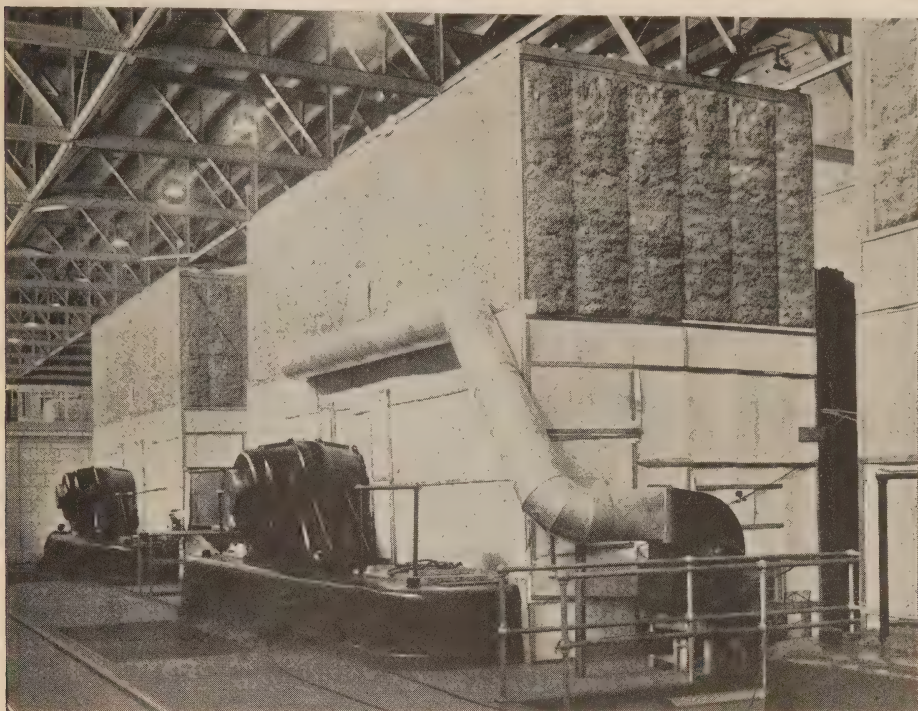
Ontario Power Station

The Ontario Power station, situated on the river bank below the Horseshoe Falls at Niagara, was inundated on January 26, 1938. Although this plant was protected against a water elevation of 48.75 feet above normal pool level, this was exceeded when a heavy run of ice from lake Erie and the Upper Niagara river temporarily blocked the flow of water under the ice bridge.

The ice at the south end of the plant, which was pushed up some 58 feet above the normal pool level, flowed through the windows above the crane rail and, along with the water, buried all equipment in about one-half of the station, as shown in accompanying illustration, Figure 1. The ice also completely blocked the road entrance to the north end of the plant.

Fortunately the Commission had sufficient capacity available to allow for the transfer to other plants of the 180,000 horsepower load formerly supplied by the fifteen machines. This made it possible to proceed with rehabilitation in a methodical manner. The first operation, after the water had cleared from the plant (approximately 24 hours) was to start cleaning up and removing the ice from the roadway entrance. Eight days were required to move in materials and supplies. Gasoline shovels and trucks, working for 32 days, removed the 14,250 cubic yards of ice in the power house. The work of cleaning up the building and equipment was a time-consuming task as the water had floated between 15,000 and 20,000 gallons of oil from the transformers, switches and various pieces of equipment, coating all exposed surfaces as the water receded.

Two of the motor-generator exciter sets, which were placed on dry-out with hot air on February 2, were restored to service on February 10, to supply power for crane operation.



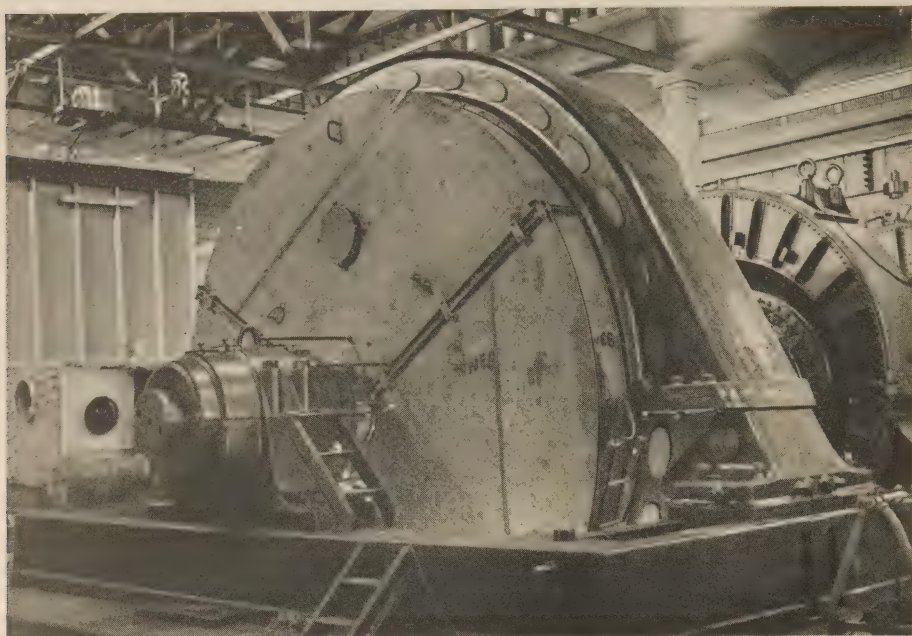
ONTARIO POWER GENERATING STATION—REHABILITATION

Figure 2—The hot air circulating system

As fast as the main units in the north end were cleaned and material became available they were totally enclosed by constructing an insulated housing around them, and drying-out operations commenced by forcing hot air through the machines at high velocity. The air was heated by electric heaters to a temperature of 120 to 125 degrees Centigrade. The first machines on dry-out were units 11 and 12 on February 17, with five additional by March 5. This set-up and construction is shown in Figure 2. The dry-out was started with the machine at rest, and continued for about 12 to 14 days in order to dry the field coils sufficiently to enable the insulation to withstand the crushing effect of centrifugal force when the fields were rotated. The machines were then run at reduced speed until the insulation resistance on the fields reached 200,000 ohms. This required about eighteen days, after which they were put on short-circuit up to full-load current to maintain a temperature of 85 degrees Centigrade on the windings, with hot air and internal heating. Six to seven weeks' operation on short-circuit was required for complete dry-out, or a total period of 10 to 12 weeks per unit.

In this final period it was found necessary to run the machines through five or more cycles of cooling and reheating to provide a temperature gradient between the inside and outside of the armature coil insulation which would facilitate the movement of any moisture trapped in the coil.

The use of vacuum tanks proved very successful in drying out motors of all voltages up to 2,200 and up to 250 horsepower, service transformers of 12,000 volts, auto starters, etc., in from 24 to 48 hours. This method was also



ONTARIO POWER GENERATING STATION—REHABILITATION

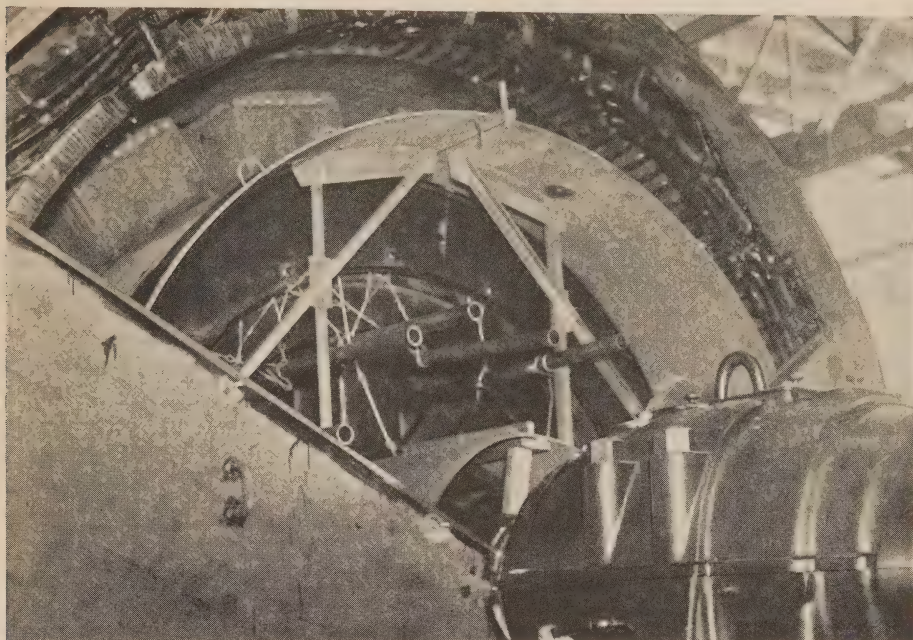
Figure 3—The air-tight metal casing

used with success on meters, relays, instrument transformers and similar small equipment, overhaul and recalibration of course being necessary on completion of the dry-out. As a result it was decided to design and build an air-tight metal casing to enclose the armature windings, fields, and iron of the seven machines which were buried in the ice, in order to dry these out under heat and vacuum with the rotor at rest. The construction of this enclosure is shown in Figures 3 and 4. It was housed in as shown in Figure 2 to provide for external heat supply.

After assembly of all equipment the machines were heated to 90 degrees Centigrade by circulating hot air through openings in the vacuum enclosure, assisted by about 50 kilowatt of energy supplied by direct current circulated through the stator windings connected in series. The air-tight housing was then sealed.

The vacuum pumps were started and the air pressure dropped in about $2\frac{1}{2}$ -lb. steps, regulating the internal temperature so that it did not exceed by more than 10 degrees Centigrade the boiling point of water at that pressure, in order that there would be no danger of developing sufficient steam pressure inside the coil to burst the insulation. The time required for the dry-out run was about four days, which included the time necessary to bring the machine up to temperature, and the application of the vacuum for 24 to 36 hours. A total of about 7 to 10 days was required to completely assemble and dismantle equipment and dry out the machine.

All main generators were dried out by the methods described with the exception of number 3 unit, which was immediately rewound with a set of spare coils carried in stock.



ONTARIO POWER GENERATING STATION—REHABILITATION

Figure 4—The bracing for the vacuum chamber

As far as the main generators were concerned, the greatest difficulty was found in the field windings, as the fibrous insulation was completely water soaked and on dry-out the fibre insulating collars were warped and cracked, while the glued, laminated wood collars separated into thin pieces. Tests also indicated many short-circuited turns in the coils.

The field coils on eight of the generators were removed, vacuum dried and cleaned, short-circuited turns repaired, completely impregnated with bakelite and reinsulated with fabricated materials having high mechanical strength, good insulating values, high temperature and low moisture absorption qualities. As this work could not be completed on all generators in time for the winter loads, six machines remain to be taken care of during the coming year.

The immediate saving in drying out the stators of the 14 main generators, against the cost of supplying and installing new stator windings, approximates some \$450,000.

The main units were returned to service on the following dates:

Number 1—July 29	Number 6—June 8	Number 11—April 28
“ 2—July 29	“ 7—April 29	“ 12—July 31
“ 3—May 8	“ 8—August 1	“ 13—July 31
“ 4—June 22	“ 9—Sept. 16	“ 14—May 16
“ 5—May 27	“ 10—August 28	“ 15—July 31

In the rehabilitation of this plant, all control and station service wiring required replacement. These leads of rubber-insulated lead-covered cable were carried in large groups of horizontal conduit, and could not be cleared of water and oil *in situ* as it was found that the rubber insulation was very brittle, as well as water soaked. All leads were replaced by new cable installed in accordance with present standards of design.

Previous to the flood, consideration was being given to moving the control room from the station on top of the hill to the generating station. After the flood, the time appeared opportune for such a change as it would avoid the need for replacing control cables between the generating station and distributing station, and would consolidate the operating staff. The re-routing of many cables direct to Niagara transformer station, and the discontinuance of local services from the Ontario Power distributing station, will eliminate the necessity for a complete operating staff in the distributing station. A control room, with new bench-type switchboard, was designed and is being installed in the generating station, with the work about 75 per cent complete at the end of the fiscal year.

On August 2, several coils in the stator winding of number 15 generator failed in service. Close examination did not indicate that this failure was in any way connected with the flooding of the plant. As a result of the tightness of the coils in the slots, making it impossible to lift them without damage, it was found necessary to install a complete new winding. This machine was returned to service on October 19.

Toronto Power Station

The Toronto Power station, ordinarily used as a peak load plant, was operated to capacity from January 26, 1938, when the Ontario Power plant was flooded, until August 1, when most of the machines in the latter plant were returned to service.

Failures of coils in number 1 generator occurred on July 11 and 12; these were repaired and the machine returned to service in one and two days respectively.

The armature winding of number 3 machine failed on July 11, and as there had been a number of coil failures in this unit, during recent years, it was decided to install the second new-type winding purchased in 1937, similar to that used in number 2 generator last year. While this work was progressing, the turbine was dismantled and completely overhauled. The machine was being re-assembled for dry-out run at the end of the year.

As the shop equipment and maintenance staff at this plant were being fully used in the rehabilitation of the Ontario Power plant, only the vital items of maintenance were carried out.

Chats Falls Station

The four generating units and auxiliary equipment of the Commission were available for operation during the year, as well as the four machines of the Ottawa Valley Power Company.

The submerged head gates and turbine gates of units 2, 6 and 8, were thoroughly cleaned and painted. A large number of barnacle formations were observed, covering eroded spots from 1/64 to 1/16 inch in depth and about one and one-quarter inches in diameter. Close examination revealed a small worm, which was afterwards found to be the larvae of a species of May fly and responsible for these formations.

The headworks and dams were inspected. Three of the main boom cribs in the forebay, which had been toppled over by the ice, were rebuilt. The woodwork on the emergency sluice gates was overhauled, painted and a cavity in the retaining wall was repaired. Rock between the old apron and tail-race level on number 4 sluiceway was removed, and the apron extended to the down-stream water level in order that this location might be used for driving commercial logs. It is estimated that some 650,000 pieces of pulpwood and pine logs were passed through the dam during the season.

In the power house the tile cable ducts on the breast wall of the dam, which carry cables from the four Ottawa Valley generators, were removed and replaced with wood racks to eliminate corrosion of the lead sheaths from seepage water coming through the cement of the dam structure. This work was similar to that carried out on the Commission's cables last year.

Routine inspection and general maintenance was carried out on all equipment, buildings, roads, structures and grounds.

DeCew Falls Station

The DeCew Falls station, which is the main source of supply for the 66-2/3-cycle Dominion Power section of the Niagara system, gave satisfactory service during the year.

Number 5 unit was removed from service on April 18 for a complete overhaul. The turbine runner and gate shafts were built up by welding, the main turbine and rocker arm bearings were re-babbitted, and a new set of seal rings and gate shaft bushings were installed. The generator windings were cleaned and varnished. This unit was returned to service on August 16.

Number 7 unit was out of service from September 6 to October 18 to install a new butterfly valve and expansion joint between the penstock and turbine to replace the gate valve which failed in service in 1937.

At the gate house all racks were removed and rebuilt to give a better flow of water and to facilitate their removal for repairs.

Mechanical and electrical maintenance was performed as required to maintain the plant in good operating condition. The roads, bridges and waterways, comprising the headworks and storage basin, were inspected and repaired where necessary.

The houses in the operators' colony were reconditioned. This work included the installation of new furnaces, painting, decorating and improving the cellars and drainage.

Hamilton Steam Plant

The steam power station at Hamilton was operated as a standby reserve during the year to provide emergency power to the Dominion Power and Transmission division of the Niagara system.

Repairs were made to the wood enclosure of the condenser discharge tunnel, locomotive crane boilers and coal conveyor. The station storage battery was given a complete overhaul. Additional metering equipment was installed to give a complete record of the input and output of the turbines and generators.

Routine building and equipment maintenance was carried out.

Transformation

The Leaside 220,000-volt transformer station gave satisfactory service, although regular operation and maintenance work was carried out under some difficulty due to the construction work involved in the installation of two additional banks of transformers and the necessary switching equipment for these and the two new outgoing 110,000-volt lines. In addition to the ordinary maintenance work, the staff assisted in the modernizing of four 220,000-volt and three 110,000-volt oil circuit-breakers in the present equipment, and the installation of five new 110,000-volt breakers. For the installation of the new transformers it was necessary to rebuild the 75-ton crane in the erection room to give a capacity of 100 tons.

At the Strachan Avenue (Toronto) station the staff assisted in modernizing two 110,000-volt oil circuit-breakers in the present equipment and the erection of three new 110,000-volt oil breakers.

The testing of bushings by the potential gradient method developed by the Commission's Laboratory was used to check the condition of some 2,400 transformer and oil circuit-breaker bushings; of these 80 were found to show some indication of deterioration in the insulation. These units were replaced, thereby preventing their damage by complete failure and the attendant interruptions to service. The defective units as removed were dismantled, repaired and returned to service. There were no failures of high-voltage transformers during the year.

Control batteries were replaced at Brant, Cooksville, York and New Toronto stations.

Extensive building maintenance was carried out at thirteen stations and included pointing and relaying of brick on parapet walls where necessary, plastering, repairs to roof and sidewalks. All equipment was regularly inspected and repaired where necessary.

Transmission

The 220,000-volt transmission lines gave satisfactory service and required little maintenance. Regular patrol of all circuits was carried out, as well as underbrushing on approximately 4,400 acres under and in the immediate vicinity of the lines. Approximately six miles of additional patrol roads were constructed.

On the 110,000-volt transmission circuits, angle-iron footings on 124 McGuigan-type and 120 Windsor tandem-type towers were inspected and reinforced. Line changes were made at Allanburg Junction to provide two direct feeds from Queenston to St. Thomas, Chatham, Windsor and St. Clair in order to give these municipalities better voltage regulation.

Insulators were inspected, tested and defective units replaced on some 210 miles of 110,000-volt lines, 14 miles of 60,000-volt lines and 68 miles of 46,000-volt lines.

On the Dominion Power 44,000-volt transmission lines, 14,190 insulators were inspected and 250 defective units were replaced.

Regular patrol and general maintenance were carried out on all lines.

The operating telephone lines were regularly patrolled and maintained in good condition and some 9 miles were rebuilt. Generally speaking, service on the

private telephone lines of the Commission has been improved during the past few years.

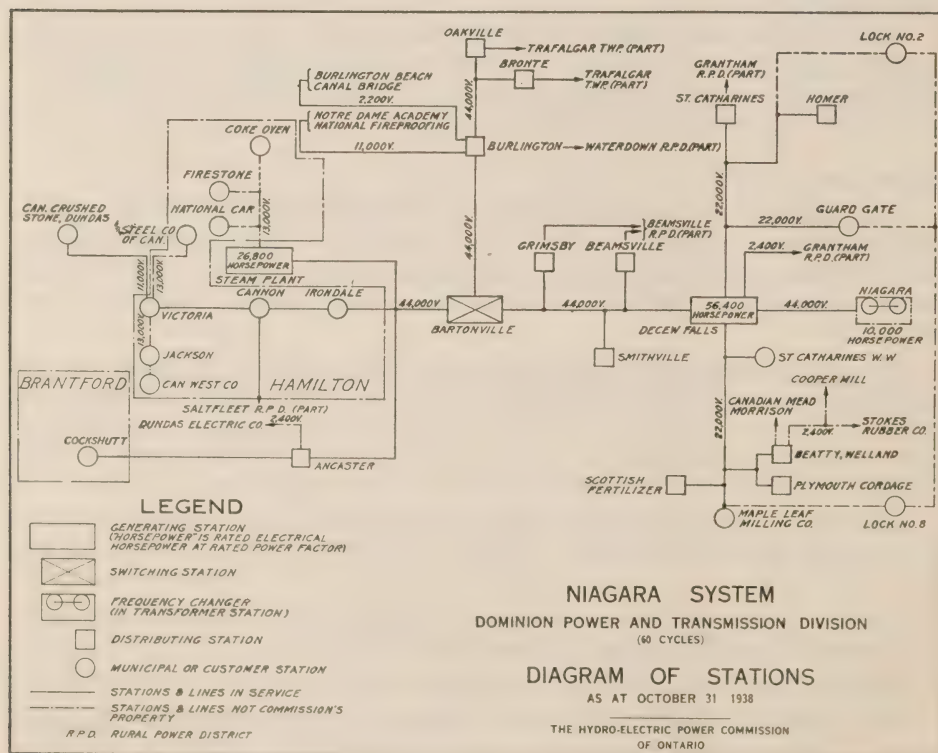
Distribution

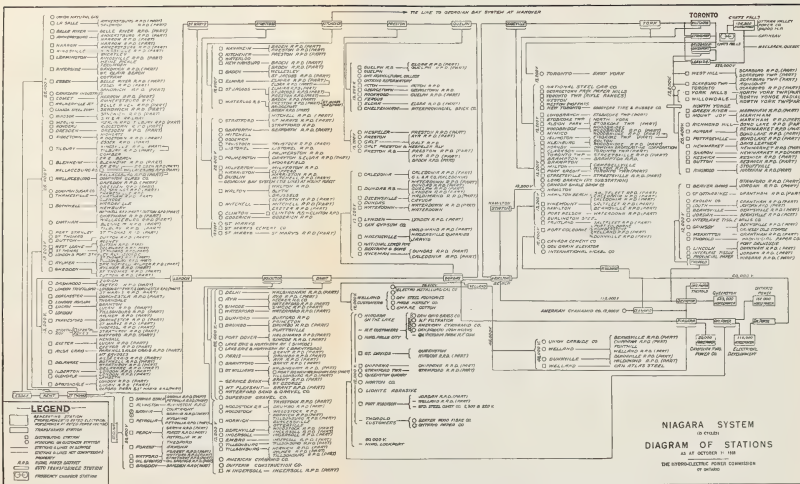
There were nine failures of low-tension transformers during the year, two of which were scrapped, four rebuilt by the field maintenance staff, and three by the manufacturers. Thirty-eight transformers were dismantled, cleaned and repaired where necessary. All equipment, including oil circuit-breakers, was inspected and repairs and readjustments made where required.

On low-tension wood-pole lines no extensive difficulties were encountered, although in the Chatham and Brantford area a severe wind storm caused some damage, resulting in interruptions to service in some districts.

The ground wire was removed from some 208 miles of 13,200 and 26,000-volt lines, and the conductor was transferred to pole-top pins on approximately 141 miles to get better wire spacing; 44 miles of rural primary circuits were erected on power and telephone lines. As a result of highway reconstruction, it was necessary to relocate or rebuild at various places a total of some eight miles of line.

In the maintenance of these circuits, approximately 3,380 poles were replaced, lowered or stubbed to maintain pole strengths to Commission standards, and some 11,000 sand-cresote collars were installed for preservation of the poles at the ground line.





NIAGARA SYSTEM—LOADS OF MUNICIPALITIES—1937-38

Municipality	Peak load in horsepower*		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Acton.....	985.0	977.3	7.7	.....
Agincourt.....	174.2	185.6	.....	11.4
Ailsa Craig.....	117.8	126.0	.....	8.2
Alvinston.....	94.2	97.6	.....	3.4
Amherstburg.....	782.0	880.7	.....	98.7
Ancaster Township.....	363.5	403.1	.....	39.6
Arkona.....	61.6	62.0	.....	0.4
Aurora.....	1,196.4	1,261.4	.....	65.0
Aylmer.....	744.0	720.3	23.7	.....
Ayr.....	236.8	217.4	19.4	.....
Baden.....	376.4	350.6	25.8	.....
Beachville.....	552.1	481.7	70.4	.....
Beamsville.....	510.0	460.6	49.4	.....
Belle River.....	159.5	180.9	.....	21.4
Blenheim.....	475.8	541.3	.....	65.5
Blyth.....	115.9	119.1	.....	3.2
Bolton.....	186.6	176.6	10.0	.....
Bothwell.....	148.1	136.7	11.4	.....
Brampton.....	2,705.3	2,952.7	.....	247.4
Brantford.....	15,836.4	16,214.0	.....	377.6
Brantford Township.....	741.9	790.8	.....	48.9
Bridgeport.....	148.1	146.0	2.1	.....
Brigden.....	80.1	89.0	.....	8.9
Bronte.....	205.1	192.3	12.8	.....
Brussels.....	144.3	144.3	.....	.....
Burford.....	183.0	192.1	.....	9.1
Burgessville.....	54.6	49.2	5.4	.....
Burlington.....	1,340.5	1,376.0	.....	35.5
Burlington Beach.....	.....	474.3	.....	.....
Caledonia.....	332.0	412.8	.....	80.8
Campbellville.....	34.1	35.1	.....	1.0
Cayuga.....	130.0	140.4	.....	10.4
Chatham.....	6,295.9	6,555.2	.....	259.3
Chippawa.....	333.8	321.2	12.6	.....
Clifford.....	78.4	86.4	.....	8.0
Clinton.....	571.0	614.7	.....	43.7
Comber.....	176.9	167.5	9.4	.....
Cottam.....	74.4	84.3	.....	9.9
Courtright.....	45.0	47.0	.....	2.0
Dashwood.....	72.5	85.2	.....	12.7
Delaware.....	65.0	73.7	.....	8.7
Delhi.....	.....	660.8	.....	.....
Dorchester.....	110.9	126.4	.....	15.5
Drayton.....	115.0	128.0	.....	13.0
Dresden.....	372.5	396.8	.....	24.3
Drumbo.....	83.1	99.7	.....	16.6
Dublin.....	83.2	88.0	.....	4.8
Dundas.....	1,931.9	1,959.1	.....	27.2
Dunnville.....	1,144.1	1,193.1	.....	49.0
Dutton.....	252.7	271.8	.....	19.1

*See explanatory paragraphs on pages 7 and 10.

NIAGARA SYSTEM—LOADS OF MUNICIPALITIES—1937-1938—Continued

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
East York Township.....	7,270.0	7,776.9	.....	506.9
Elmira.....	729.3	807.6	.....	78.3
Elora.....	369.6	397.0	.....	27.4
Embro.....	139.4	152.5	.....	13.1
Erieau.....	142.0	151.4	.....	9.4
Erie Beach.....	44.5	51.2	.....	6.7
Essex.....	642.1	643.5	.....	1.4
Etobicoke Township.....	5,744.5	6,561.9	.....	817.4
Exeter.....	562.2	557.6	4.6	.....
Fergus.....	1,243.3	1,273.4	.....	30.1
Fonthill.....	152.0	146.1	5.9	.....
Forest.....	440.5	483.1	.....	42.6
Forest Hill.....	.....	7,994.6	.....	.....
Galt.....	7,113.4	7,709.0	.....	595.6
Georgetown.....	1,340.0	1,386.8	.....	46.8
Glencoe.....	213.2	233.8	.....	20.6
Goderich.....	1,292.2	1,308.7	.....	16.5
Granton.....	60.0	75.7	.....	15.7
Grimsby.....	710.0	1,040.0	.....	330.0
Guelph.....	9,687.0	10,223.2	.....	536.2
Hagersville.....	978.5	810.7	167.8	.....
Hamilton.....	110,465.0	104,000.0	6,465.0	.....
Harriston.....	346.9	398.9	.....	52.0
Harrow.....	573.4	542.6	30.8	.....
Hensall.....	202.6	178.1	24.5	.....
Hespeler.....	2,098.8	2,044.0	54.8	.....
Highgate.....	73.0	82.8	.....	9.8
Humberstone.....	469.3	480.4	.....	11.1
Ingersoll.....	2,407.4	2,470.4	.....	63.0
Jarvis.....	208.4	205.9	2.5	.....
Kingsville.....	593.8	683.6	.....	89.8
Kitchener.....	20,601.7	21,053.7	.....	452.0
Lambeth.....	136.0	149.2	.....	13.2
La Salle.....	229.3	262.0	.....	32.7
Leamington.....	2,217.8	2,930.9	.....	713.1
Listowel.....	1,045.5	1,136.7	.....	91.2
London.....	37,358.8	38,517.6	.....	1,158.8
London Township.....	585.5	596.5	.....	11.0
Long Branch.....	933.0	1,120.6	.....	187.6
Lucan.....	226.6	230.4	.....	3.8
Lynden.....	89.8	105.3	.....	15.5
Markham.....	365.3	359.2	6.1	.....
Merlin.....	89.9	85.3	4.6	.....
Merritton.....	5,834.0	5,819.3	14.7	.....
Milton.....	1,261.7	1,124.7	137.0	.....
Milverton.....	312.7	347.1	.....	34.4
Mimico.....	2,635.3	2,827.0	.....	191.7
Mitchell.....	518.2	602.5	.....	84.3
Moorefield.....	31.9	37.8	.....	5.9
Mount Brydges.....	113.6	108.4	5.2	.....

NIAGARA SYSTEM—LOADS OF MUNICIPALITIES—1937-1938—Continued

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Newbury.....	46.9	39.9	7.0	.....
New Hamburg.....	546.7	587.8	.....	41.1
Newmarket.....	1,714.5	1,695.8	18.7	.....
New Toronto.....	7,042.8	7,148.8	.....	106.0
Niagara Falls.....	10,088.2	10,134.0	.....	45.8
Niagara-on-the-Lake.....	769.4	765.4	4.0	.....
North York Township.....	4,406.0	5,074.4	.....	668.4
Norwich.....	389.4	409.6	.....	20.2
Oakville.....	1,147.4	1,093.8	53.6	.....
Oil Springs.....	195.7	222.1	.....	26.4
Otterville.....	128.6	120.3	8.3	.....
Palmerston.....	465.9	487.6	.....	21.7
Paris.....	1,319.2	1,376.8	.....	57.6
Parkhill.....	162.3	183.4	.....	21.1
Petrolia.....	1,103.9	1,119.0	.....	15.1
Plattsville.....	93.1	89.1	4.0	.....
Point Edward.....	1,162.2	1,302.9	.....	140.7
Port Colborne.....	2,069.6	2,176.9	.....	107.3
Port Credit.....	808.8	847.7	.....	38.9
Port Dalhousie.....	927.6	922.2	5.4	.....
Port Dover.....	439.2	416.4	22.8	.....
Port Rowan.....	74.7	86.9	.....	12.2
Port Stanley.....	950.5	1,007.0	.....	56.5
Preston.....	3,039.6	3,173.5	.....	133.9
Princeton.....	162.2	129.4	32.8	.....
Queenston.....	115.3	137.2	.....	21.9
Richmond Hill.....	428.4	444.8	.....	16.4
Ridgetown.....	541.1	571.0	.....	30.1
Riverside.....	1,032.4	1,116.9	.....	84.5
Rockwood.....	118.0	122.6	.....	4.6
Rodney.....	153.8	185.4	.....	31.6
St. Catharines.....	13,694.8	14,673.8	.....	979.0
St. Clair Beach.....	103.8	111.2	.....	7.4
St. George.....	170.2	162.9	7.3	.....
St. Jacobs.....	313.6	327.0	.....	13.4
St. Marys.....	1,361.0	1,461.6	.....	100.6
St. Thomas.....	7,761.4	8,024.1	.....	262.7
Sarnia.....	8,623.6	8,990.9	.....	367.3
Scarboro Township.....	3,796.5	4,113.9	.....	317.4
Seaforth.....	568.1	558.1	10.0	.....
Simcoe.....	2,290.9	2,250.7	40.2	.....
Smithville.....	332.7	414.2	.....	81.5
Springfield.....	70.3	67.3	3.0	.....
Stamford Township.....	2,317.7	2,472.6	.....	154.9
Stoney Creek.....	227.3	229.4	.....	2.1
Stouffville.....	252.5	284.1	.....	31.6
Stratford.....	7,123.4	7,591.5	.....	468.1
Strathroy.....	1,194.3	1,215.8	.....	21.5
Streetsville.....	134.0	163.5	.....	29.5
Sutton.....	353.5	441.3	.....	87.8

NIAGARA SYSTEM—LOADS OF MUNICIPALITIES—1937-1938—Concluded

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Swansea.....	2,949.1	2,990.6		41.5
Tavistock.....	605.9	678.2		72.3
Tecumseh.....	433.7	464.3		30.6
Thamesford.....	188.3	209.3		21.0
Thamesville.....	213.1	249.0		35.9
Thedford.....	136.0	129.0	7.0	
Thorndale.....	50.1	111.4		61.3
Thorold.....	2,389.2	2,283.0	106.2	
Tilbury.....	562.3	709.9		147.6
Tillsonburg.....	1,383.9	1,441.1		57.2
Toronto.....	351,802.9	362,158.2		10,355.3
Toronto Township.....	2,355.1	2,549.5		194.4
Trafalgar Township Area No. 1.....	397.3	467.8		70.5
Trafalgar Township Area No. 2.....	113.3	145.5		32.2
Wallaceburg.....	2,281.4	2,584.2		302.8
Wardsville.....	35.5	38.2		2.7
Waterdown.....	247.1	256.3		9.2
Waterford.....	451.7	441.0	10.7	
Waterloo.....	3,612.6	3,978.5		365.9
Watford.....	264.7	292.2		27.5
Welland.....	5,967.8	5,917.9	49.9	
Wellesley.....	113.5	129.7		16.2
West Lorne.....	132.6	137.6		5.0
Weston.....	3,790.8	4,021.4		230.6
Wheatley.....	162.4	165.5		3.1
Windsor.....	40,756.3	40,043.5	712.8	
Woodbridge.....	440.3	447.7		7.4
Woodstock.....	6,348.3	6,605.9		257.6
Wyoming.....	80.4	165.5		85.1
Zurich.....	96.1	102.4		6.3

NIAGARA SYSTEM—RURAL POWER DISTRICT LOADS—1937-1938

Rural power district	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Acton.....	18.0	20.0		2.0
Ailsa Craig.....	8.6	33.9		25.3
Alvinston.....	9.6	14.4		4.8
Amherstburg.....	1,152.5	1,025.0	127.5	
Aylmer.....	521.5	757.7		236.2
Ayr.....	51.0	55.5		4.5
Baden.....	678.3	657.2		21.1
Beamsville.....	1,504.4	1,745.2		240.8
Belle River.....	413.2	426.2		13.0
Blenheim.....	232.1	311.8		79.7

NIAGARA SYSTEM—RURAL POWER DISTRICT LOADS—1937-1938—Continued

Rural power district	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Bond Lake.....	1,500.5	1,639.9		139.4
Bothwell.....	259.0	363.1		104.1
Brampton.....	241.0	292.3		51.3
Brant.....	770.5	942.3		171.8
Brigden.....	55.3	87.9		32.6
Burford.....	233.7	273.2		39.5
Caledonia.....	530.4	636.1		105.7
Chatham.....	698.7	890.8		192.1
Chippawa.....	177.6	186.2		8.6
Clinton.....	203.2	261.4		58.4
Delaware.....	490.3	559.2		68.9
Dorchester.....	550.4	629.1		78.7
Dresden.....	91.6	140.7		49.1
Drumbo.....	229.8	281.1		51.3
Dundas.....	865.7	1,030.1		164.4
Dunnville.....	63.0	117.5		54.5
Dutton.....	181.3	220.2		38.9
Elmira.....	132.8	132.3	0.5	
Elora.....	185.2	188.2		3.0
Essex.....	367.4	416.6		49.2
Exeter.....	648.8	755.7		106.9
Forest.....	94.8	129.2		34.4
Galt.....	305.1	330.0		24.9
Georgetown.....	210.0	244.3		34.3
Goderich.....	155.7	200.6		44.9
Grantham.....	683.4	667.6	15.8	
Guelph.....	636.9	696.2		59.3
Haldimand.....	411.4	459.2		47.8
Harriston.....	42.2	50.7		8.5
Harrow.....	974.2	1,053.9		79.7
Ingersoll.....	624.8	688.9		64.1
Jordan.....	482.0	440.8	41.2	
Keswick.....	1,351.6	1,487.5		135.9
Kingsville.....	1,185.7	1,312.4		126.7
Listowel.....	305.6	351.2		45.6
London.....	2,386.2	2,577.0		190.8
Lucan.....	134.6	136.9		2.3
Lynden.....	236.9	268.3		31.4
Markham.....	751.9	871.0		119.1
Merlin.....	287.6	309.4		21.8
Milton.....	246.6	264.6		18.0
Milverton.....	138.6	166.2		27.6
Mitchell.....	264.5	352.5		88.0
Newmarket.....	414.7	461.7		47.0
Niagara.....	814.2	899.2		85.0
Norwich.....	478.3	651.6		173.3
Oil Springs.....	66.5	98.2		31.7
Palmerston.....	111.5	132.3		20.8
Petrolia.....	47.5	70.9		23.4
Preston.....	1,332.9	1,677.5		344.6

NIAGARA SYSTEM—RURAL POWER DISTRICT LOADS—1937-1938—Concluded

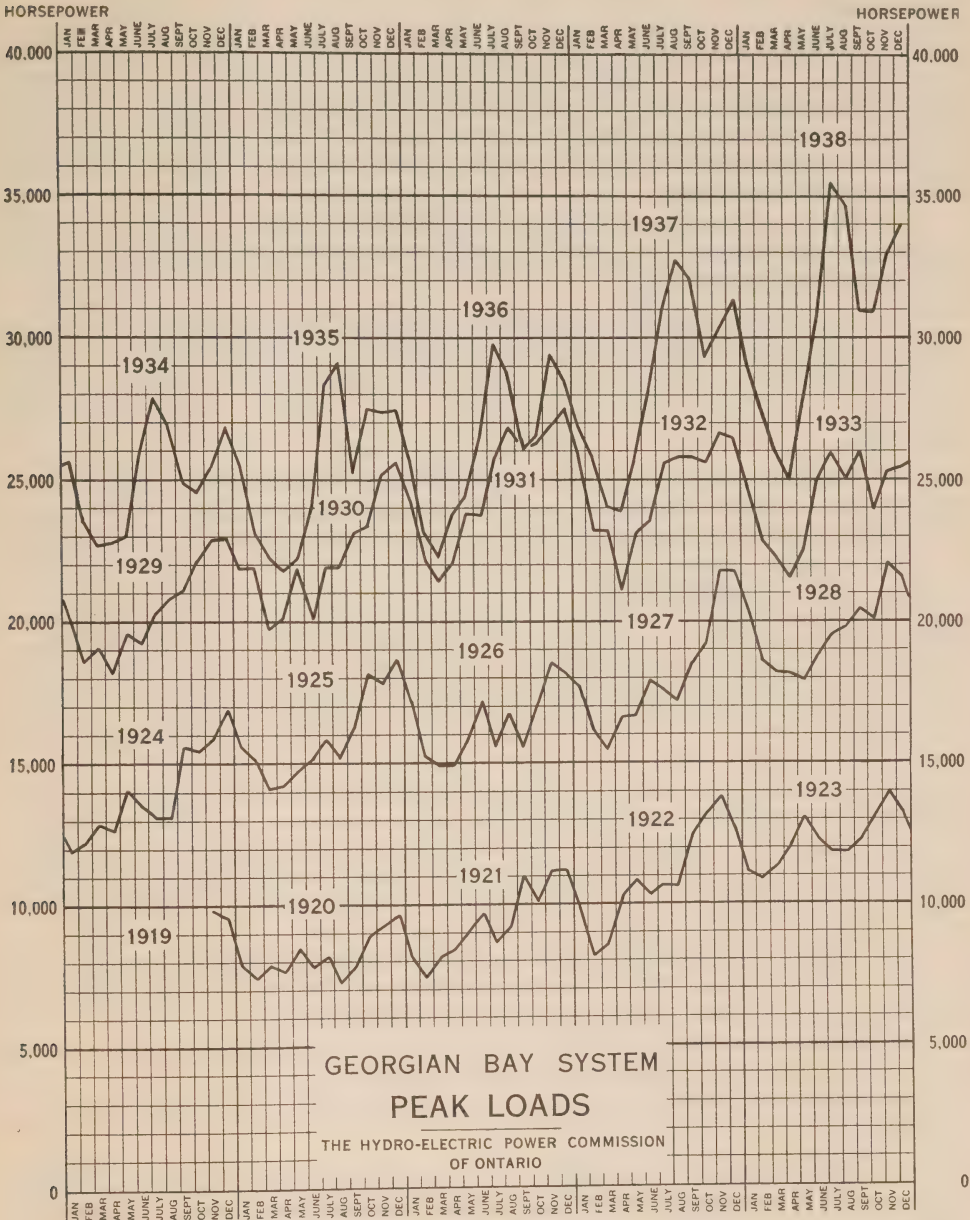
Rural power district	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Ridgetown.....	580.8	605.3	.....	24.5
St. Jacobs.....	340.2	372.6	.....	32.4
St. Marys.....	422.7	561.9	.....	139.2
St. Thomas.....	943.6	1,107.6	.....	164.0
Saltfleet.....	1,269.8	1,529.0	.....	259.2
Sandwich.....	1,354.3	1,487.1	.....	132.8
Sarnia.....	978.1	1,028.3	.....	50.2
Scarboro.....	652.7	781.0	.....	128.3
Seaforth.....	75.7	84.3	.....	8.6
Simcoe.....	442.0	609.0	.....	167.0
Stamford.....	275.3	295.1	.....	19.8
Stratford.....	284.8	317.1	.....	32.3
Strathroy.....	186.0	232.0	.....	46.0
Streetsville.....	496.0	566.8	.....	70.8
Tavistock.....	344.2	417.0	.....	72.8
Thamesville.....	204.4	235.0	.....	30.6
Tilbury.....	391.4	300.3	91.1	.....
Tillsonburg.....	566.3	724.5	.....	158.2
Wallaceburg.....	334.4	384.3	.....	49.9
Walsingham.....	627.6	722.4	.....	94.8
Walton.....	174.8	207.6	.....	32.8
Waterdown.....	1,416.0	1,504.2	.....	88.2
Waterford.....	358.8	445.7	.....	86.9
Watford.....	66.8	88.7	.....	21.9
Welland.....	1,603.9	1,760.2	.....	156.3
Woodbridge.....	893.5	1,084.2	.....	190.7
Woodstock.....	863.4	1,064.6	.....	201.2

GEORGIAN BAY SYSTEM

Operation

The Georgian Bay system peak load was approximately eight per cent, and the energy distributed approximately five per cent, in excess of last year. The additional energy requirements were more than taken care of by increased output of the three plants on the South Muskoka river made possible by greater flows in this river than in the previous year, combined with the fact that increased output could be used advantageously because of the increase in capacity of the Eugenia-Severn tie line recorded in last year's Report. The result was a decrease of about eight per cent in energy transferred from the Niagara system by way of Hanover and Mount Forest frequency-changer sets. The outputs of other hydraulic plants within the system were about the same as last year.

Power was purchased from the Orillia Water, Light and Power Commission in July and August over peak-load periods as the resources otherwise available



NOTE:—The Georgian Bay system includes the Severn, Eugenia, Wasdells, Muskoka and Bala districts. In the diagram the load for the Muskoka district is not included until November, 1924. Details respecting this load for preceding years are given in earlier annual reports. The load of the Bala district is not included in above graph until April, 1931, previous meter records being incomplete.

were unable to supply the peak demands; the yearly peaks occurred in these two months as has been the case for the last few years in this system. Small amounts of power were supplied to the Orillia Commission on two occasions to facilitate the handling of maintenance work.

Maintenance

At Eugenia generating station the No. 3 machine bearings were overhauled and the unit realigned. The synchronous condenser was overhauled, hardwood wedges tightened, eight broken starting bars replaced, loose insulating collars on pole pieces tightened and the unit painted. Extensive repairs to the concrete of Eugenia storage basin dam were carried out by the Construction department.

At Hanover generating station the field-pole insulating collars on both machines, which had deteriorated and become loose, were replaced and the units cleaned and painted.

At Big Chute generating station the No. 1 generator rotor was found to have shifted on the shaft and repairs were made by removing the shaft, truing the bore of the rotor hub, inserting a shim, shrinking the hub on the shaft and realigning the machine. Defective timbers in No. 1 and No. 2 headgates were replaced.

At Wasdells generating station the beam and deck slab over each of two sluiceways was renewed, broken concrete repaired and the deck of the dam waterproofed with a mixture made up of cement, sand and emulsified asphalt.

At Trethewey Falls generating station the turbine was inspected and repairs made to prevent rubbing of the gates on the crown plate. Repairs to the dam were carried out by the Construction department. These were necessary to correct damage caused by frost action and consisted of the removal of the easterly 55 feet, preparation of foundation and replacement with a new concrete section, provision of proper drainage of the new section and placing of rock fill.

At Ba'a No. 1 generating station there was one case of failure of armature coil insulation and seven coils were replaced.

At Bala No. 2, Walkerton, South Falls and Hanna Chute generating stations, and at Hanover and Mount Forest frequency-changer stations only routine inspection and repairs were required.

At Hollow Lake dam the masonry was repointed, joint sealing compound on the deck of the dam was renewed, the deck of the dam waterproofed and stop logs given a preservative treatment with creosote oil.

At Chesley distributing station a 250-kv-a. transformer failed in service and was returned to the manufacturer for repairs.

At Durham distributing station obsolete lightning arresters on the Durham and Holstein feeders were replaced.

At Meaford distributing station on December 2 a fire, which was apparently caused by break-down of low-voltage current transformers, destroyed or damaged considerable equipment and wiring around the switchboard. Service was restored by means of temporary connections and the damaged portion of the station was rehabilitated.

At Penetang distributing station one 300-kv-a. transformer failed in service and was shipped to the manufacturer for repairs.

At Pinedale distributing station the distribution voltage was raised from 4,000 to 8,000 volts.

At Wasdells rural station the distribution voltage was raised from 4,000 to 8,000 volts.

Eleven municipalities were assisted with the operation and maintenance of their distribution systems on twenty-eight occasions.

Three major transmission line breaks occurred during the year as a result of very high winds; on December 26, ten consecutive poles were broken between Dundalk and Shelburne; April 28, sixteen consecutive poles were broken between Elmvale and Fergusonvale; July 14, two 2-pole structures were blown down on the Muskoka-Severn tie line.

To improve telephone communication, power-circuit transpositions were re-located between Eugenia generating station and Hanover, and 165 hand joints in the telephone line from Eugenia generating station to Collingwood were replaced with compression type joints.

Thirty-five storm guys were erected in the line between Markdale and Owen Sound.

Between Barrie and Bradford junction the ground wire was removed and conductors rearranged to give wider separation.

The power and telephone conductors along nearly one mile of the Muskoka-Wasdells tie line were replaced with new conductors as the old cables had been badly damaged by blasting operations of the highway contractors.

Owing to highway changes extensive re-routing of the transmission line was required between Berkeley and Chatsworth. At the request of the Bell Telephone Company new poles were erected and other changes made at crossings over the telephone line between Barrie and Painswick, also near Shelburne and near Greenbank.

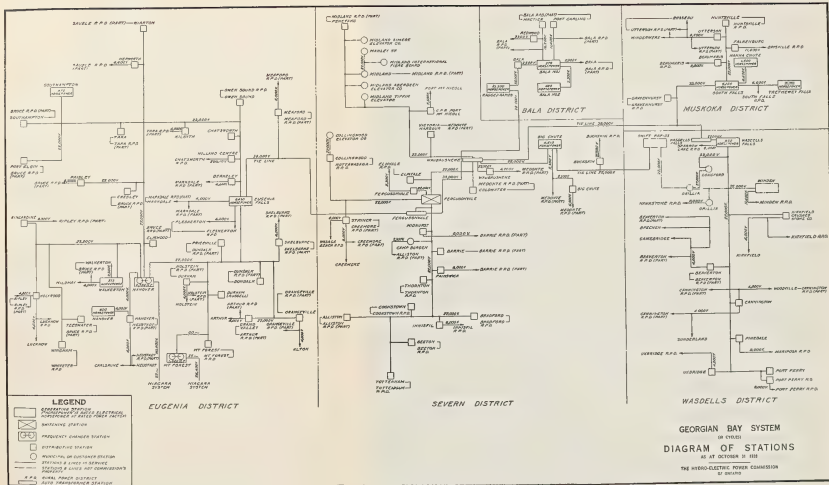
In addition to routine patrol and maintenance, 425 poles were replaced, 575 poles were reinforced by the addition of stubs or the installation of split cylinders, 60 poles were lowered and 4,400 poles received preservative treatment at the ground line by the application of sand-creosote collars. Approximately 700 defective crossarms, 2,200 defective insulators and 1,500 defective insulator pins were replaced.

GEORGIAN BAY SYSTEM—LOADS OF MUNICIPALITIES—1937-1938

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Alliston.....	313.1	330.3	.....	17.2
Arthur.....	159.0	170.3	.....	11.3
Bala.....	282.0	309.0	.....	27.0
Barrie.....	2,894.4	3,067.2	.....	172.8
Beaverton.....	248.8	289.5	.....	40.7
Beeton.....	114.0	113.2	0.8	.....
Bradford.....	213.7	196.6	17.1	.....
Brechin.....	68.1	87.3	.....	19.2
Cannington.....	182.2	181.2	1.0	.....
Carlsruhe.....	5.0	5.0	.....	.....
Chatsworth.....	74.1	77.6	.....	3.5
Chesley.....	520.7	574.8	.....	54.1
Coldwater.....	345.9	330.9	15.0	.....
Collingwood.....	1,606.7	1,694.4	.....	87.7
Cookstown.....	77.4	93.7	.....	16.3

GEORGIAN BAY SYSTEM—LOADS OF MUNICIPALITIES—1937-1938—Concluded

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Creemore.....	113.6	134.0	.....	20.4
Dundalk.....	208.6	218.7	.....	10.1
Durham.....	492.5	509.2	.....	16.7
Elmvale.....	183.2	166.2	17.0	.....
Elmwood.....	70.5	64.0	6.5	.....
Flesherton.....	88.3	80.8	7.5	.....
Grand Valley.....	130.1	147.2	.....	17.1
Gravenhurst.....	906.8	1,011.6	.....	104.8
Hanover.....	1,160.2	1,135.6	24.6	.....
Hepworth.....	31.9	29.0	2.9	.....
Holstein.....	19.5	21.8	.....	2.3
Huntsville.....	1,055.4	1,134.5	.....	79.1
Kincardine.....	719.1	746.6	.....	27.5
Kirkfield.....	27.0	27.0	.....	.....
Lucknow.....	307.2	280.4	26.8	.....
MacTier.....	149.0	149.0	.....	.....
Markdale.....	193.1	188.2	4.9	.....
Meaford.....	662.9	766.8	.....	103.9
Midland.....	3,031.8	3,131.8	.....	100.0
Mildmay.....	115.6	124.8	.....	9.2
Mount Forest.....	478.5	573.3	.....	94.8
Neustadt.....	41.1	39.1	2.0	.....
Orangeville.....	678.8	695.5	.....	16.7
Owen Sound.....	4,130.3	4,380.0	.....	249.7
Paisley.....	141.0	134.7	6.3	.....
Penetang.....	809.4	767.0	42.4	.....
Port Carling.....	223.0	302.0	.....	79.0
Port Elgin.....	405.3	454.0	.....	48.7
Port McNicoll.....	89.6	90.4	.....	0.8
Port Perry.....	274.4	307.7	.....	33.3
Priceville.....	17.0	16.6	0.4	.....
Ripley.....	64.5	77.0	.....	12.5
Rosseau.....	56.8	63.3	.....	6.5
Shelburne.....	236.2	248.1	.....	11.9
Southampton.....	374.6	435.7	.....	61.1
Stayner.....	258.6	311.6	.....	53.0
Sunderland.....	78.5	81.3	.....	2.8
Tara.....	107.4	108.8	.....	1.4
Teeswater.....	145.4	149.6	.....	4.2
Thornton.....	28.1	30.5	.....	2.4
Tottenham.....	78.3	85.7	.....	7.4
Uxbridge.....	300.3	297.0	3.3	.....
Victoria Harbour.....	74.4	75.0	.....	0.6
Walkerton.....	805.0	732.6	72.4	.....
Waubashene.....	137.9	138.7	.....	0.8
Warton.....	306.2	320.7	.....	14.5
Windermere.....	92.3	96.9	.....	4.6
Wingham.....	429.5	487.2	.....	57.7
Woodville.....	72.8	88.8	.....	16.0



GEORGIAN BAY SYSTEM—RURAL POWER DISTRICT LOADS—1937-1938

Rural power district	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Alliston.....	141.6	149.5	.....	7.9
Arthur.....	4.8	12.0	.....	7.2
Bala.....	400.0	391.0	9.0	.....
Barrie.....	610.5	678.5	.....	68.0
Baysville.....	182.5	183.2	.....	0.7
Beaumaris.....	599.8	639.4	.....	39.6
Beaverton.....	353.2	370.1	.....	16.9
Beeton.....	5.0	5.0	.....	.....
Bradford.....	79.6	96.1	.....	16.5
Bruce.....	245.0	327.0	.....	82.0
Buckskin.....	22.6	25.7	.....	3.1
Cannington.....	68.3	100.6	.....	32.3
Chatsworth.....	11.4	12.6	.....	1.2
Cookstown.....	3.0	2.5	0.5	.....
Creemore.....	89.0	123.6	.....	34.6
Dundalk.....	15.0	34.5	.....	19.5
Elmvale.....	106.4	138.5	.....	32.1
Flesherton.....	36.5	53.9	.....	17.4
Gravenhurst.....	65.2	103.0	.....	37.8
Hawkestone.....	209.1	227.8	.....	18.7
Holstein.....	3.0	5.8	.....	2.8
Huntsville.....	241.4	269.6	.....	28.2
Innisfil.....	670.2	809.6	.....	139.4
Kirkfield.....	24.2	34.0	.....	9.8
Lucknow.....	12.0	18.5	.....	6.5
Mariposa.....	227.3	233.2	.....	5.9
Markdale.....	51.9	55.0	.....	3.1
Meaford.....	25.0	134.2	.....	109.2
Medonte.....	126.0	195.7	.....	69.7
Midland.....	285.1	420.0	.....	134.9
Minden.....	56.3	89.8	.....	33.5
Neustadt.....	3.5	8.3	.....	4.8
Nottawasaga.....	40.8	58.3	.....	17.5
Orangeville.....	93.3	137.8	.....	44.5
Owen Sound.....	100.0	134.6	.....	34.6
Port Perry.....	227.2	241.3	.....	14.1
Ripley.....	41.5	98.4	.....	56.9
Sauble.....	73.2	115.8	.....	42.6
Shelburne.....	38.0	42.7	.....	4.7
South Falls.....	6.0	9.0	.....	3.0
Sparrow Lake.....	297.8	326.5	.....	28.7
Tara.....	120.1	120.0	0.1	.....
Thornton.....	18.9	22.3	.....	3.4
Tottenham.....	10.0	16.5	.....	6.5
Utterson.....	165.9	229.7	.....	63.8
Uxbridge.....	137.3	150.7	.....	13.4
Wasaga Beach.....	598.9	742.6	.....	143.7
Wroxeter.....	163.3	183.7	.....	20.4

EASTERN ONTARIO SYSTEM

Operation

The load on the Eastern Ontario system was well sustained throughout the past fiscal year. The monthly primary peaks and average loads have, without exception, exceeded all recorded maxima for corresponding months in any year. The maximum primary peak increased 2.5 per cent and the total primary kilowatt-hours increased 5.9 per cent.

The system primary peak for the fiscal year usually occurs during the month of October, load growth exceeding seasonal variations. In the present year, the load has followed the more or less characteristic trend, but from a survey of the operating records there are indications of a slowing down of industrial activities, starting about the middle of October and continuing until the end of the calendar year. In consequence of this the increase in peak demand for the month of October was approximately 4 per cent less than the average rate of increase for the previous eleven months.

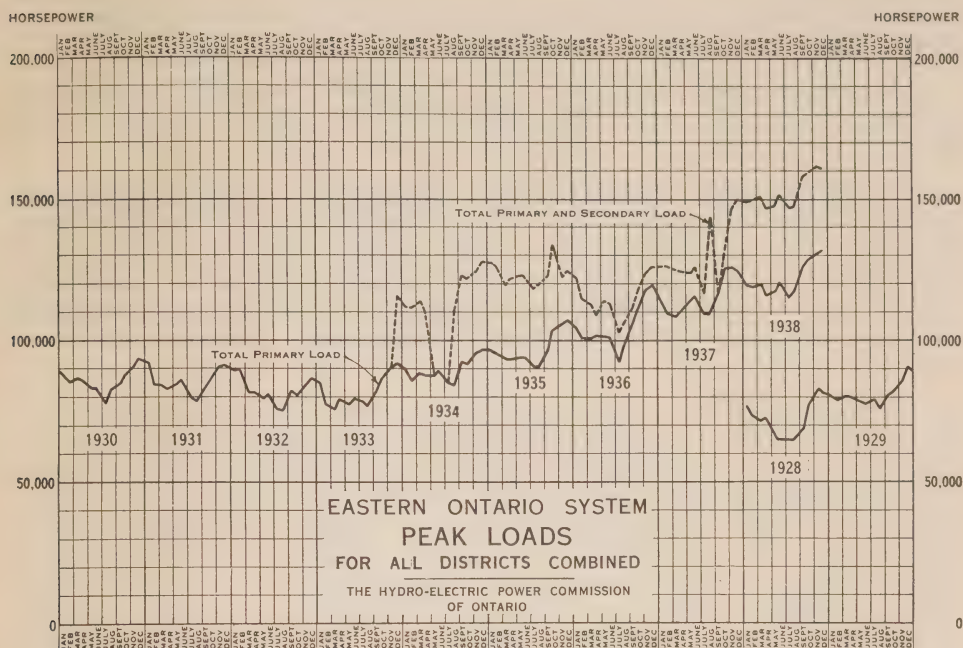
By arrangements with the Gatineau Power Company, it was possible during the year to transfer certain amounts of surplus energy available on the Niagara system to the Eastern Ontario system. This transfer is effected by increasing the 60-cycle contract delivery with a corresponding reduction on the 25-cycle contract at no additional cost to the Commission. As a result of this transfer, together with surplus energy available from the Eastern Ontario system generating and purchased sources, it was possible to deliver secondary power to the extent of approximately 150,000,000 kilowatt-hours to the steam generator at the Howard Smith Paper Mills at Cornwall.

Under the terms of the revised 60-cycle contract with the Gatineau Power Company, an additional 18,000 horsepower became available on October 1, thereby making available to this system the maximum contract amount of 60,000 horsepower.

Service to all customers in Prince Edward county was greatly improved, particularly with regard to voltage conditions, by the replacement of the old iron conductor with aluminum, steel-reinforced conductor on the line known as the Picton Tap. This line is approximately 28 miles in length and extends from the main 44,000-volt line some four miles west of Trenton to Picton. The above work was completed on November 26, 1937.

In order to improve general operating conditions and provide increased service security to the town of Lindsay, a second 44,000-volt circuit was constructed between Auburn switching station and Lindsay Junction. The old 44,000-volt line extending between Auburn switching station and Lindsay distributing station was completely rehabilitated. This work was completed by November 26, 1937, and the new section of line was placed in service on January 5.

Stream flow on the Trent river was uniformly satisfactory throughout the year. Rainfall was considerably above normal during the months of July, August and September, which are usually the months of lowest stream flow. As a result it was possible to operate the generating stations at a somewhat higher load factor than usual during these months.



Maintenance

During the year the usual programme of general plant inspection and maintenance was carried out. A number of turbines were unwatered and inspected, and necessary repairs and adjustments made. The governors in the various plants were inspected and adjusted. Several of the forebays were unwatered, racks cleaned, sunken debris removed, and the concrete carefully inspected. Lightning arresters were overhauled during the winter season.

High-tension oil breakers were inspected and overhauled in accordance with the number of times they had operated under trouble conditions.

Defective high-tension bushings were replaced in a number of oil breakers and transformers. A number of defective insulators were replaced on the high-tension bus structures at several stations. Painting of buildings, structures and apparatus was carried out at numerous places throughout the system. Further details are given below regarding the maintenance of various stations and lines.

At Sidney, plant No. C-2, all turbines were inspected and defective bearings were replaced in each unit. The governors were thoroughly overhauled. The lower sections of the racks were inspected and cleaned by a diver. All generators were thoroughly overhauled. A new telephone switchboard was installed.

At Frankford, plant No. C-5, the forebay was unwatered and the racks cleaned. All turbines were unwatered, lignum-vitae bearings were adjusted and a number of broken gates were replaced.

At Meyersburg, plant No. C8, all turbines were inspected but no major repairs were found necessary. The five 44,000-volt oil breakers were over-

hauled, three defective high-tension bushings were replaced. A defective current transformer was replaced on one of the 44,000-volt lines.

At Hagues Reach, plant No. C-9, the turbines were all unwatered and necessary repairs and adjustments were made. All 44,000-volt oil breakers were overhauled, two high-tension bushings were replaced.

At Ranney Falls, plant No. C-10, the forebay was unwatered, racks cleaned and the head gates cleaned and painted. One turbine was thoroughly overhauled. One generator was completely overhauled and new air-slide wedges were installed in the stator for the purpose of improving cooling conditions. The 44,000-volt oil breakers and the electrolytic lightning arresters were overhauled. A defective current transformer was replaced on one of the 44,000-volt lines.

At Seymour, plant No. C-11, the forebay was unwatered and the racks were cleaned. Two of the main turbines and the exciter turbine were overhauled. Three of the governors were overhauled. The 44,000-volt oil breakers were overhauled on two occasions. As a result of a severe electrical storm on May 5, two 750-kv-a, 2,400-volt generators were seriously damaged. One generator was returned to service temporarily following the replacement of approximately fifty stator coils, and other miscellaneous repairs. The second machine required a complete overhaul, including the supply and installation of a complete new stator winding, new collars for the field poles and restacking the iron laminations, etc.

At Heely Falls, plant No. C-14, no extensive maintenance of hydraulic or electrical equipment was necessary. A number of defective control cables were replaced. All high-tension and low-tension oil breakers were overhauled.

At Auburn, plant No. C-18, the forebay was unwatered and the racks were cleaned. A number of new stop logs were framed for use in the dam. One of the generators was overhauled. Defective lightning arresters on the 6,600-volt feeders were replaced.

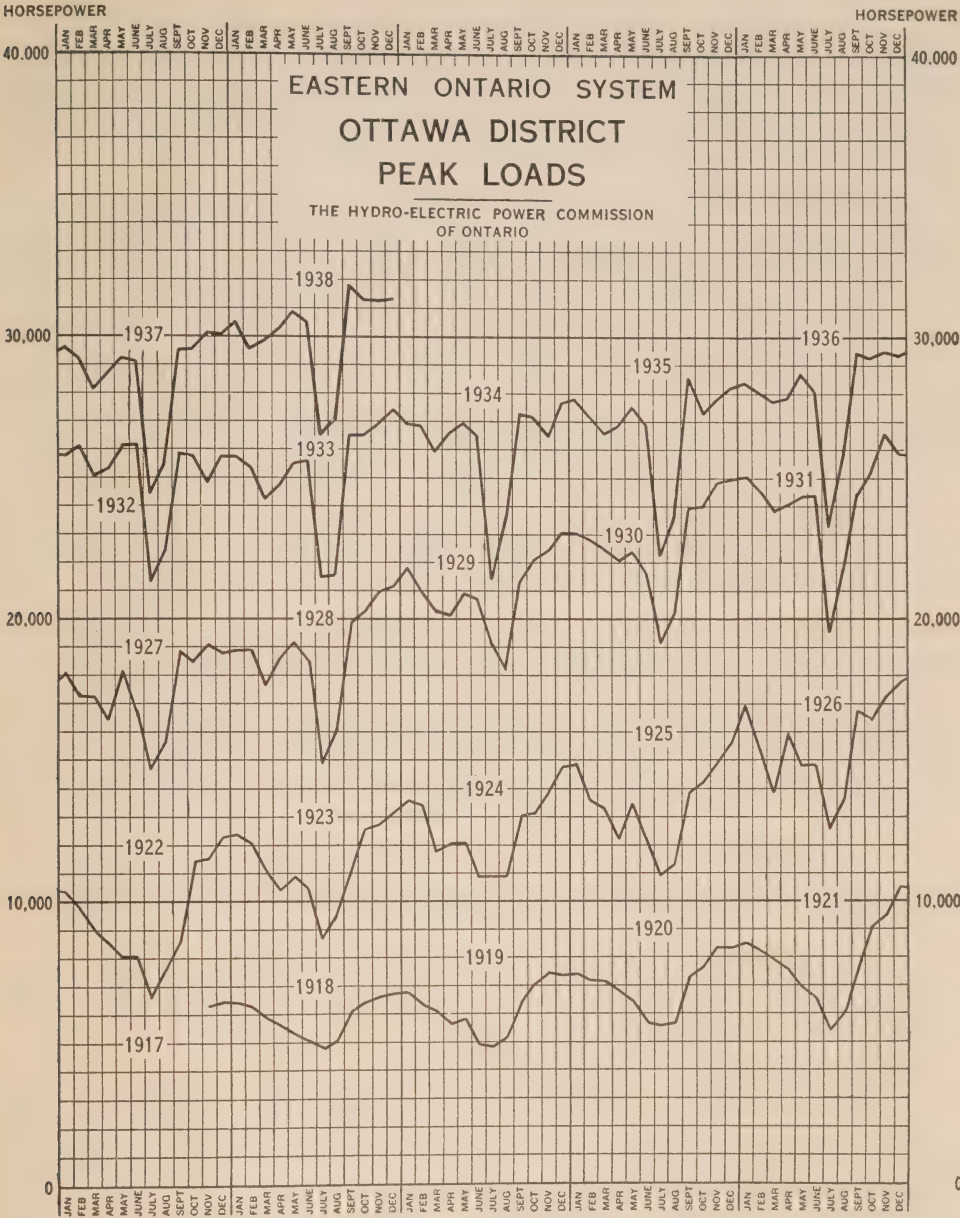
At Fenelon Falls, plant No. C-30, the turbines were unwatered and necessary repairs and adjustments were made. New collector rings were installed on one of the generators.

At Sills Island, plant No. C-56, the turbines and turbine gears were overhauled. The bearing supports of one turbine were strengthened. The governors were overhauled. One of the generators was thoroughly overhauled. Damaged over-voltage and tripping relays on one of the generators were removed for repairs and reinstalled.

At Carleton Place generating station on the Mississippi river the foundation of the building was inspected by a diver. The building was completely re-roofed. The lifting rack over the spare wheel pit was reinforced in order to facilitate daily operation of the stop logs in providing closer regulation of the discharge out of Mississippi lake.

At Galetta generating station on the Mississippi river defective bearings were replaced on one of the turbines. The stop log checks were repaired in three sluiceways in the dam. The oil breakers were all overhauled.

At Calabogie generating station on the Madawaska river two generators, rated at 2,000 kv-a, 6,600 volts, were seriously damaged during an electrical



storm on June 7. Repairs were carried out by the Commission's maintenance staff and included the supply and installation of complete new stator windings, replacement of approximately 10 per cent stator iron laminations, supply and installation of new collars on all field coils and the supply and installation of miscellaneous parts such as fan blades, finger plates, field leads, etc. As noted in last year's Report the total output capacity of the turbines at this plant was increased by approximately 600 horsepower by the excavation of a ridge in the tail race. The new stator windings for the generators were therefore designed for a rated output capacity of 2,500 kv-a each, or a total increase in rated capacity of 1,000 kv-a. The three single-phase transformers at this plant

have a rated capacity of 2,000 kv-a each at 66,000 volts, but since the transmission voltage in that part of the system is only 33,000 volts, the transformers were operating on only part of the winding with a consequent reduction in capacity. The windings of these transformers have now been reconnected in such a manner as to provide a total capacity of 6,000 kv-a.

While the above work was in progress, a programme of general plant rehabilitation was undertaken. The forebay was unwatered and an accumulation of about 300 yards of silt, stumps and sunken logs was removed from in front of the racks. A defective section of wood rack at the end of the main racks was renewed. The wood rack in front of the exciter turbine was replaced by a steel rack. The upstream side of the bulkhead wall was treated with asphalt. The station roof coating was renewed. A new concrete water diversion saddle was erected on the roof in order to prevent the formation of large icicles, which in the past have frequently damaged certain of the 6,600-volt feeders in falling. The oil breakers and other electrical equipment were overhauled.

At Bowmanville distributing station one of the 750-kv-a transformers was overhauled and the defective water cooling coil replaced. The 44,000-volt electrolytic lightning arresters were overhauled.

At Brockville distributing station the lightning arresters and 44,000-volt oil breakers were overhauled. The defective station storage battery was replaced.

At Cornwall transformer station the four 5,000-kv-a, 110,000/44,000-volt transformers were thoroughly overhauled. All high-tension oil breakers and lightning arresters were overhauled. The station site was improved by the planting of shrubs and decorative flower beds.

At Oshawa No. 1 distributing station the high-tension oil breaker and electrolytic lightning arresters were overhauled. Defective low-tension bushings were replaced on one of the 3,000-kv-a transformers.

At Smiths Falls distributing station the old high-tension electrolytic arresters were replaced by a modern line arrester. The transformer water cooling system was overhauled.

At Smiths Falls transformer station, during a severe lightning storm on July 14, the 1,500-kv-a, three-phase, 44,000/2,400-volt transformer in the tertiary bank failed in service. Since this was the third failure of this transformer under similar circumstances, it was decided to replace the primary windings on each leg with windings of an improved design. The transformer was rebuilt accordingly and returned to service on December 10. Defective low-tension bushings were replaced on the 3,000-kv-a transformer in the tertiary bank. Defective timbers under certain of the high-tension transformers were replaced. The high-tension and low-tension oil breakers were overhauled.

At Sidney transformer station the installation of a new 15,000-kv-a, 110,000 44,000-volt bank of transformers, together with the necessary outdoor bus structure, switching equipment, etc., made it possible to operate the Chats Falls-Sidney transmission line at the 110,000 volts for which it was designed. Previous to placing the new transformer bank in service, this line was operated at 44,000 volts during periods of emergency in 1937.

The inspection and maintenance of high-voltage transmission lines was actively carried out during the year. 802 poles were stubbed and 191 poles were replaced due to rot at the ground line or other deterioration. Sand-creosote collars were installed on 3,029 poles. Approximately 2,500 defective 44,000-volt, pin-type insulators were replaced. A number of poles were relocated at different points on the system as a result of highway changes. Approximately 58 miles of rural lines were erected. Routine maintenance work was carried out, including straightening poles, replacing defective cross arms and pins, adjusting guys, examining and replacing damaged conductors, joints, etc. Tree trimming, weed cutting and underbrushing were carried out on numerous high-voltage and low-voltage line sections.

Meter Department and Repair Shops, Belleville

The Meter department is responsible for the operation and maintenance of all metering and relay equipment on the system and also for the checking into service of all new electrical equipment installed. Special tests relating to radio and telephone interference, ground conductivity and voltage conditions were made at numerous points on the system. The services of this department are available to any municipality wishing to have electrical measurements made or technical problems investigated.

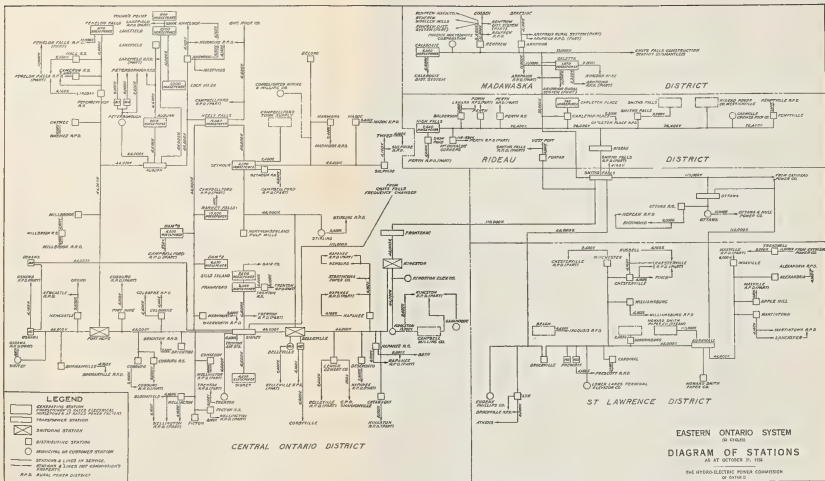
The Belleville machine and meter repair shop continued to test and repair service meters for municipal and rural systems. 3,399 meters were repaired and 3,358 new meters handled. The usual programme of machine shop work in connection with hydraulic and electrical maintenance was carried out. Over 250 samples of insulating oil from the field were tested, and approximately 12,000 gallons of oil were filtered during the year.

EASTERN ONTARIO SYSTEM—LOADS OF MUNICIPALITIES—1937-1938

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Alexandria.....	216.0	229.2	.....	13.2
Apple Hill.....	54.2	46.1	8.1	.....
Arnprior.....	945.0	1,005.0	.....	60.0
Athens.....	130.4	123.3	7.1	.....
Bath.....	47.1	47.3	.....	0.2
Belleville.....	5,351.6	5,560.1	.....	208.5
Bloomfield.....	123.3	126.4	.....	3.1
Bowmanville.....	2,273.7	2,404.3	.....	130.6
Braeside.....	168.0	167.6	0.4	.....
Brighton.....	323.0	369.0	.....	46.0
Brockville.....	3,345.8	3,868.6	.....	522.8
Cardinal.....	251.3	258.4	.....	7.1
Carleton Place.....	1,596.9	1,682.2	.....	85.3
Chesterville.....	249.6	283.2	.....	33.6
Cobden.....	69.0	77.0	.....	8.0

EASTERN ONTARIO SYSTEM—LOADS OF MUNICIPALITIES—1937-1938—Concluded

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Cobourg.....	1,769.4	1,749.3	20.1	.....
Colborne.....	174.9	222.5	.....	47.6
Deseronto.....	155.2	165.5	.....	10.3
Finch.....	78.1	85.3	.....	7.2
Hastings.....	103.8	102.8	1.0	.....
Havelock.....	178.0	171.1	6.9	.....
Kemptville.....	351.0	413.2	.....	62.2
Kingston.....	9,066.0	9,816.4	.....	750.4
Lakefield.....	295.3	294.6	0.7	.....
Lanark.....	92.4	85.8	6.6	.....
Lancaster.....	46.4	53.8	.....	7.4
Lindsay.....	2,234.2	2,507.5	.....	273.3
Madoc.....	180.1	204.4	.....	24.3
Marmora.....	128.5	140.9	.....	12.4
Martintown.....	30.5	40.2	.....	9.7
Maxville.....	97.5	103.2	.....	5.7
Millbrook.....	77.5	84.4	.....	6.9
Morrisburg.....	.....	244.6	.....	.....
Napanee.....	1,206.4	1,340.5	.....	134.1
Newburg.....	38.7	42.3	.....	3.6
Newcastle.....	162.6	147.2	15.4	.....
Norwood.....	105.5	142.1	.....	36.6
Omeme.....	154.1	129.8	24.3	.....
Orono.....	93.6	107.3	.....	13.7
Oshawa.....	15,721.5	15,803.3	.....	81.8
Ottawa.....	29,611.1	30,589.4	.....	978.3
Perth.....	1,483.9	1,551.3	.....	67.4
Peterborough.....	9,810.0	9,783.0	27.0	.....
Pictou.....	1,044.8	1,158.8	.....	114.0
Port Hope.....	1,681.2	1,906.7	.....	225.5
Prescott.....	1,027.6	1,053.8	.....	26.2
Richmond.....	50.5	54.9	.....	4.4
Russell.....	60.2	68.8	.....	8.6
Smiths Falls.....	2,129.4	2,300.1	.....	170.7
Stirling.....	286.8	337.8	.....	51.0
Trenton.....	3,458.1	3,625.6	.....	167.5
Tweed.....	235.3	246.2	.....	10.9
Warkworth.....	69.7	86.0	.....	16.3
Wellington.....	250.6	253.5	.....	2.9
Westport.....	87.1	92.5	.....	5.4
Whitby.....	1,225.2	1,308.3	.....	83.1
Williamsburg.....	221.1	185.6	35.5	.....
Winchester.....	315.0	331.2	.....	16.2



EASTERN ONTARIO SYSTEM—RURAL POWER DISTRICT LOADS—1937-1938

Rural power district	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Alexandria.....	52.5	82.4		29.9
Arnprior.....	62.5	383.4		320.9
Belleville.....	490.9	566.5		75.6
Bowmanville.....	139.9	118.8	21.1	
Brighton.....	27.0	28.0		1.0
Brockville.....	472.1	506.1		34.0
Calabogie.....		48.3		
Campbellford.....	99.5	117.7		18.2
Carleton Place.....	25.0	53.0		28.0
Chesterville.....	350.5	417.6		67.1
Cobourg.....	397.7	456.4		58.7
Colborne.....	148.8	173.7		24.9
Fenelon Falls.....	359.6	336.1	23.5	
Iroquois.....	585.8	573.7	12.1	
Kemptville.....	32.9	40.3		7.4
Kingston.....	671.7	735.5		63.8
Lakefield.....	96.1	144.5		48.4
Madoc.....		9.0		
Marmora.....	1.5	15.5		14.0
Martintown.....	103.4	147.8		44.4
Maxville.....	254.0	383.5		129.5
Millbrook.....	72.3	77.1		4.8
Napanee.....	357.6	447.2		89.6
Nepean.....	920.0	1,083.7		163.7
Newcastle.....	74.0	90.5		16.5
Norwood.....	38.3	64.1		25.8
Omeme.....	5.0	23.2		18.2
Oshawa.....	1,144.4	1,261.6		117.2
Perth.....	49.0	145.0		96.0
Peterborough.....	631.8	792.3		160.5
Prescott.....	159.6	182.1		22.5
Renfrew.....	90.4	118.0		27.6
Smiths Falls.....	300.1	312.2		12.1
Stirling.....	66.2	91.6		25.4
Sulphide.....	17.3	35.0		17.7
Trenton.....	147.1	162.6		15.5
Warkworth.....	13.8	30.7		16.9
Wellington.....	330.1	459.7		129.6
Williamsburg.....	104.2	97.0	7.2	

THUNDER BAY SYSTEM

The maximum twenty-minute peak of the primary load on the Thunder Bay system was 95,824 horsepower. This is 7.9 per cent greater than in 1937, and is the highest primary peak in the history of this system. The primary energy showed a decrease of 8.3 per cent from last year.

The market for secondary power (used by paper mills for the electrical generation of steam) was great enough to utilize more than the remaining

available generating capacity for the major portion of the time. Arrangements have, therefore, been in force, similar to those existing in 1937, whereby the paper mills under the control of the Abitibi Power and Paper Company were permitted to obtain further secondary power from the Kaministiquia Power Company, a subsidiary of the Abitibi Power and Paper Company, through the Commission's transformers and over the Commission's transmission circuits. Other secondary power customers were restricted to some extent during peak load periods.

There has been no restriction of primary power supply to any customer and no serious interruption to service. On November 3, 1937, and April 18, bushing failures on the 22,000-volt oil circuit-breakers at Port Arthur transformer station resulted in short interruptions to customers receiving power through this station. It has been necessary on occasions to restrict the secondary load demands of customers for short periods in order to carry the system load with satisfactory frequency and voltage regulation.

Power is supplied to Magnet Consolidated Mines Limited, a new customer, at 44,000 volts over a short extension to the transmission line supplying the mines in the Bankfield area.

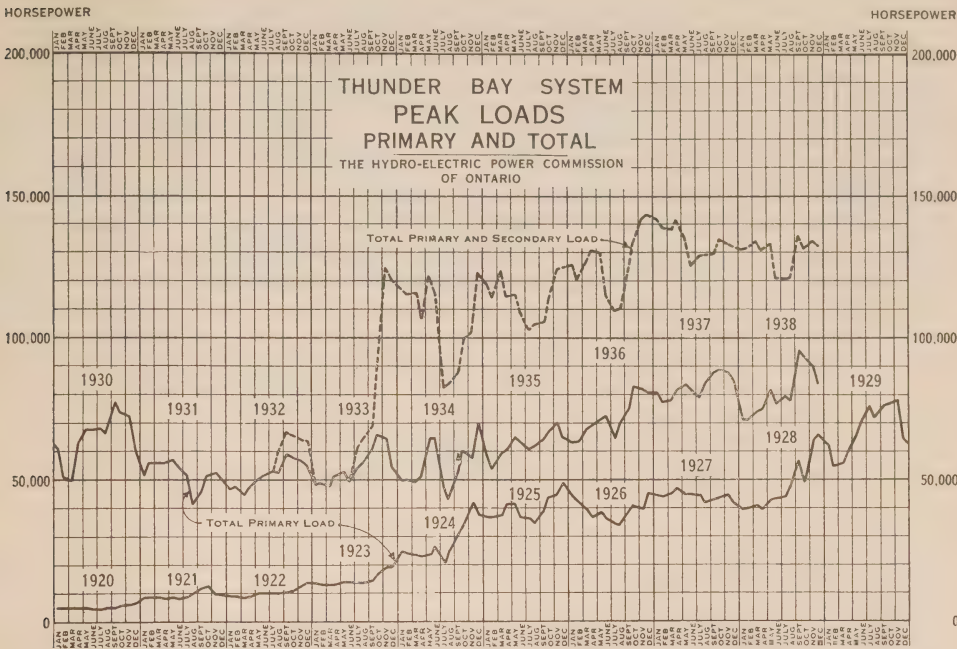
The voltage of the transmission line from Cameron Falls to the Long Lac transformer station was increased from 44,000 to 110,000 volts on January 23, when the new 9,000-kv-a Long Lac station was placed in service.

The generating and transformer stations have all functioned reliably and satisfactorily throughout the year. During the period June 10 to July 19, No. 3 unit at Cameron Falls generating station was taken out of service for welding eroded areas on the turbine blades.

New motor-driven flyball heads were installed on No. 3 and 4 governors at Cameron Falls generating station. These replaced the heavy flyballs on the main generator shafts. Routine maintenance work on the other units at this station, and those at Alexander generating station, has been done as opportunity offered; that is, when the load permitted individual units to be temporarily released from service. Maintenance work has been carried out on the power transformers and oil circuit-breakers at the generating stations, and also at Port Arthur and Fort William transformer stations. Special attention has been given to the testing of transformer and oil circuit-breaker bushings. A number of unsatisfactory bushings have been replaced, some with new ones and others with reconditioned bushings. One 8,000-kv-a transformer at Cameron Falls generating station was removed from service on September 6, after the operation of the sensitive protection against internal faults, and one core bolt was found burned. A new set of core bolts with asbestos insulation was obtained and the transformer reassembled.

The automatic reclosing feature on the oil circuit-breaker at Cameron Falls generating station controlling the 110,000-volt transmission line to Long Lac transformer station was placed in service on September 29 and has given satisfactory service. The automatic reclosing feature on the two 44,000-volt oil circuit-breakers at Long Lac transformer station was placed in service on August 3.

Very little trouble has been encountered with the 110,000-volt transmission lines between Cameron Falls generating station and Port Arthur transformer station. A number of flashovers have occurred during electrical storms, causing



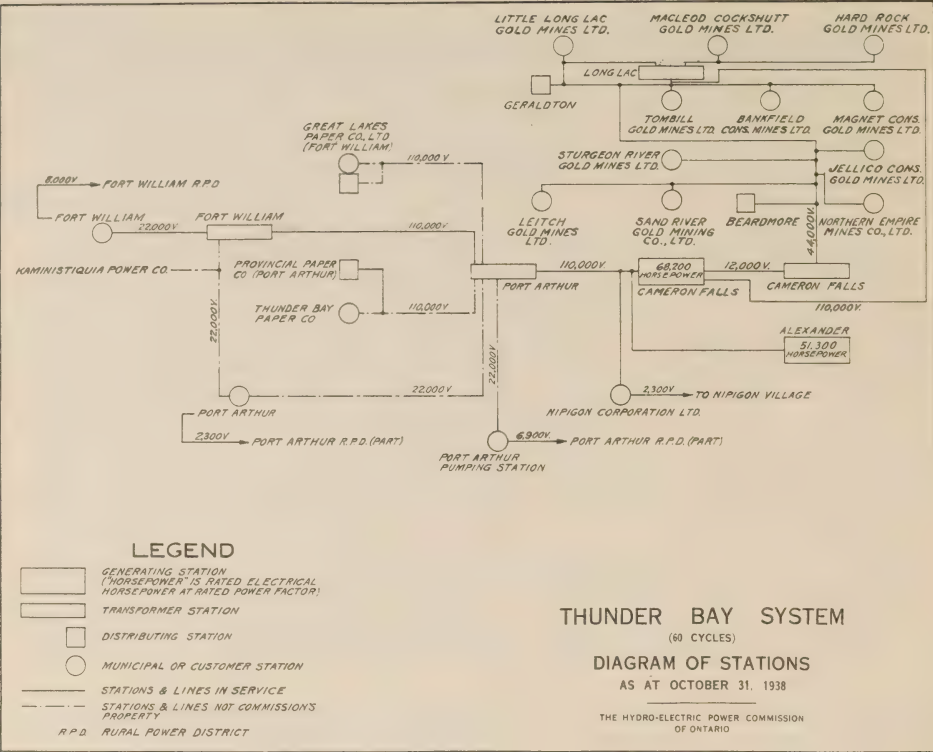
interruptions of short duration to one or more customers. Special attention has again been given to the testing of insulators and the replacement of those found defective, and to the maintenance of poles and conductors.

Service on the 110,000-volt line to Long Lac transformer station and the 44,000-volt lines supplying power to the mines in the Beardmore, Bankfield and Little Long Lac areas has been satisfactory, but there have been a number of occasions when service has been interrupted due to trees falling over the line and to highway blasting operations.

The precipitation in the watershed supplying this system has been above average, 28.72 inches being recorded. The elevation of lake Nipigon on October 31 was 852.04, compared with 852.14 for the same time last year.

THUNDER BAY SYSTEM—LOADS OF MUNICIPALITIES—1937-1938

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Beardmore.....	69.7	105.0	.....	35.3
Fort William.....	12,689.0	13,841.8	.....	1,152.8
Geraldton.....	372.6	522.8	.....	150.2
Nipigon Township.....	185.0	176.9	8.1	.....
Port Arthur.....	40,964.7	40,646.2	318.5	.....



THUNDER BAY SYSTEM—RURAL POWER DISTRICT LOADS—1937-1938

Rural power district	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Fort William.....	168.2	235.9	.....	67.7
Port Arthur.....	94.5	162.6	.....	68.1

MANITOULIN RURAL POWER DISTRICT LOADS—1937-1938

Rural power district	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase
Manitoulin.....	140.7	257.3	.....	116.6

MANITOULIN DISTRICT

Due to the growth of load on this district, resulting from extensions to the rural system, it was necessary to have the Manitoulin Pulp Company, from whom power for distribution over the district is purchased, install an additional generating unit. This new unit of 250 kv-a capacity was first placed in service on April 1. Prior to that date interruptions of service to all consumers were rather frequent, due chiefly to the necessity of removing the single generating unit from service for repairs. Subsequently, however, there were no major interruptions, those which did occur exceeding one minute duration in one instance only.

Maintenance of the Kagawong distributing station was confined to minor items of a routine nature.

NORTHERN ONTARIO PROPERTIES

Nipissing District

Operation

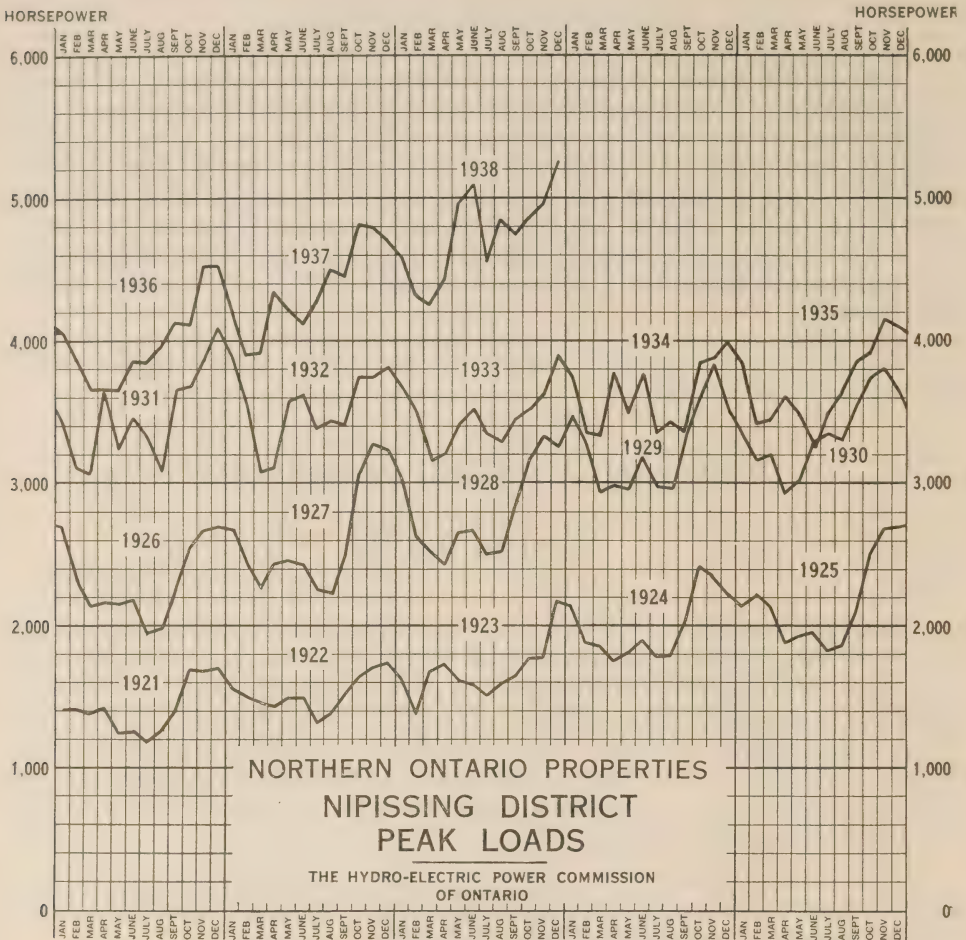
Storage reserves on the South River watershed were inadequate to produce the river flow necessary for generation of the entire district load throughout the year. During the months of May and June these reserves were conserved by obtaining a supplementary supply of power from the Sudbury district, but towards the middle of August they were almost depleted to the maximum extent permissible. However, precipitation conditions then became more favourable and made it possible to carry the load without further assistance from the Sudbury district up to the end of the year.

Operation of the district throughout the year was quite satisfactory, interruptions to customers' service, other than those prearranged, being confined to five occasions totalling 11 minutes' duration.

Maintenance

At Nipissing generating station routine tests and inspections were performed on the electrical, mechanical and hydraulic equipment and the required adjustments and repairs made. The governor pumps were rebored and fitted with new piston and leathers. The 22,000-volt line oil circuit-breaker was overhauled and fitted with new contacts. The foundation for the road bridge over the pipe line was rebuilt. The timber well for housing the water level gauge and transmitter was rebuilt. 328 pipe-line benches were relocated and the decayed spots treated with creosote oil to arrest decay. Some grading was done on the pipe line sub-grade to keep the pipe from settling and to provide better drainage. 200 steel plates with tarred felt pads were put on the pipe line to stop leaks at the butt joints of the wood staves.

At Bingham Chute generating station routine tests and inspections were carried out on the electrical, mechanical and hydraulic equipment, and the required adjustments and repairs made. The 3-conductor, 600-volt exciter cable on No. 2 unit was found defective and was replaced. Failure of this cable is attributed to the flooding of the power house during the spring freshet in 1928.



Coarse gravel was spread on the earth-filled dam, along with some rock rip-rap on the east side of the forebay, to arrest slight leakage. The new spare armature winding held in stock for No. 1 generator was installed. A defective armature coil was replaced in No. 2 generator. A complete set of wrist pins was machined and installed in the bell cranks, governor shafts, clevises and shift rings, eight in each unit. The upper and lower pipe-line thimbles were scraped on the interior surfaces and painted with red lead. The scroll cases of the turbines were painted. As part of a yearly programme, 14 cubic yards of rock were removed from the sidewalls of the pipe-line cut to provide room for working on the pipe-line sills and benches, and the drainage ditches were cleaned out.

At Elliott Chute generating station routine tests and inspections were performed on the electrical, mechanical and hydraulic equipment and any adjustments or repairs found necessary were made. A weak high-voltage bushing was found in one of the 650-kv-a power transformers. It was replaced

by a new oil-filled bushing and the defective bushing was sent to the Laboratory for further investigation. The defects were located and it was possible to rebuild the bushing and return it for use as a spare.

The timber cribbing of the drainage inspection wells, placed in the earth-filled dam to collect and observe leakage through the fill, was giving way, and the walls were rebuilt of hollow tile.

Culverts were repaired, some grading was done on the grounds, and gravel and rip-rap was placed on the earth-filled dam to compensate for erosion. The 2,200-volt oil circuit-breaker was overhauled. The slip rings on the generator were turned down. The turbine and draft tube were found to be in very good condition, the pitting on the runner blades, while increasing slightly each year, has not progressed sufficiently to warrant repairs.

At the transformer stations routine tests and inspections were made. Two low-voltage bushings were found defective, one in each of two transformers at the Canadian Timber distributing station. These were replaced with new bushings.

Defective poles, crossarms and guys were renewed in the line to Nipissing village, and 34 sand-cresote preservative collars installed. On the 22,000-volt lines, 254 preservative collars were installed, 21 poles stubbed, 1 pole replaced, 166 crossarms renewed, 2,754 insulator pins renewed and 594 insulators replaced, 148 of these having been broken by stones and rifle bullets.

General maintenance was carried out on the storage dams to offset the normal wear and tear. Bush roads and culverts were repaired and cleared where required. The rock fill on the downstream side of Craig Lake dam was completed, making this an earth and rock dam instead of a timber structure. This work has been carried out over a period of years and time for completion before the timber structure would require renewal.

Sudbury District

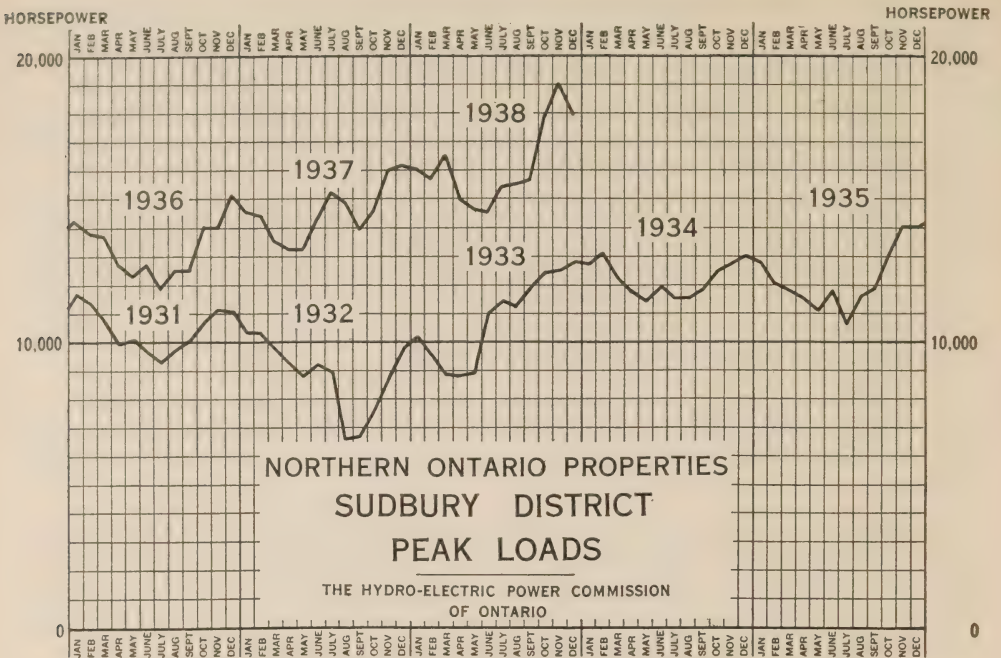
Operation

Water storage and river flow conditions on both the Wanapitei River and Sturgeon River systems met all requirements for power generation satisfactorily throughout the year.

Operation of the district was in general satisfactory throughout the year.

Continuous operation of Crystal Falls generating station in parallel with the other generating stations on the district was started on November 12. This station, which was acquired from the Abitibi Power and Paper Company in August, 1937, had only been operated as a unit of the Sudbury district intermittently up to this date.

To facilitate the construction of a new concrete dam to replace the existing timber crib dam at Coniston generating station, the station was removed from service and the forebay unwatered from June 29 to July 23. Following this, the McVittie generating station was removed from service from August 1 to August 26 to facilitate removal of the old concrete dam at this station. A new concrete dam had been built in 1936, but conditions had not been favourable for removal of the old dam heretofore.



Maintenance

At Coniston generating station the necessary maintenance of buildings and equipment was carried out. During the shut-down of the plant when the new dam was being built, the inside surfaces of the penstocks and the head-works racks were scraped, wire-brushed and painted with red lead and linseed oil. The forebay walls were repaired and painted, and repairs made to the drain gate in the forebay wall. The timber bridge from the generating station to the transformer building was replaced with a steel and concrete structure and a covered passage constructed on it.

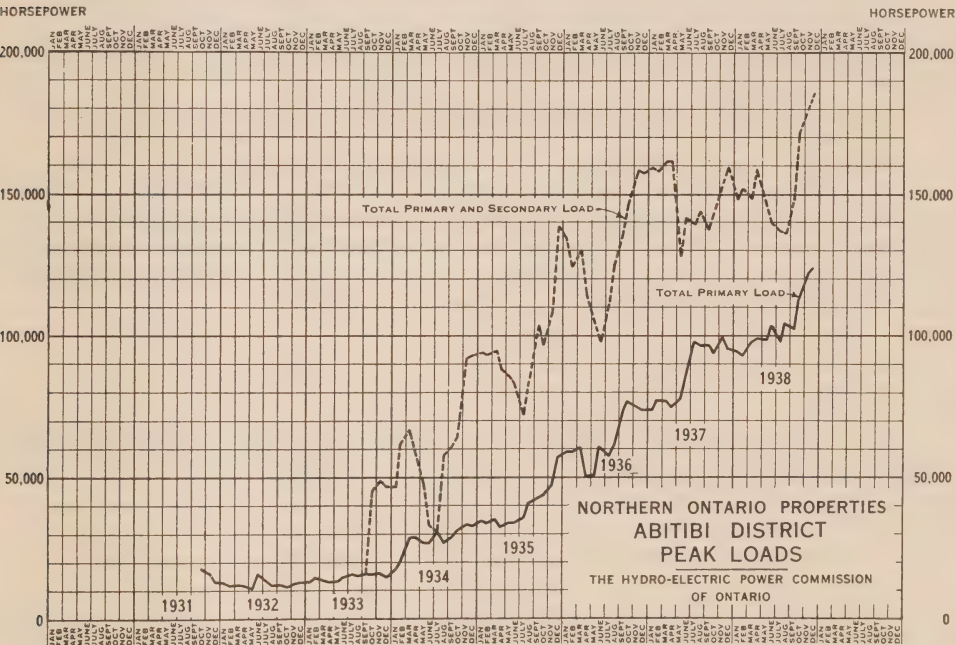
At McVittie generating station regular maintenance of buildings and equipment was carried out. During the shut-down of the plant for the removal of the old dam, the inside of the penstocks was given a coat of red lead and linseed oil paint.

At Stinson generating station regular tests and inspections were carried out. No maintenance other than of a minor routine nature was required.

At Crystal Falls generating station further maintenance was carried out to bring it up to standard. The steam-heating system to thaw out the taintor gates in the main and north dams was overhauled. Necessary repairs were made to the taintor gates. The log booms in the forebay were overhauled and repaired

and the necessary new sections constructed. The lignum-vitae bearings in the four units were renewed; the excessive amount of fine abrasive silt in suspension in the river water during the spring freshet causes very rapid wear of the lignum-vitae. The required painting and maintenance of the colony build-ings was carried out. The sills under the storehouse, which had decayed, were renewed.

A section of the Stinson-Coniston line, which was badly damaged during road construction, was rehabilitated to bring it back to standard, as was a section of the Crystal Falls-Coniston line. The cost of these repairs was billed to the road contractor and a settlement made. A section of the Stinson-Coniston line and also of the Coniston-Neelon junction line were relocated on account of highway improvements. The McVittie-Coniston line was completely over-hauled. A number of insulators on the various lines, damaged by thrown stones and rifle bullets, were replaced.



Abitibi District

Operation

The normal maximum capacity of the Abitibi Canyon generating station was increased from 180,000 horsepower to 240,000 horsepower on March 24, when the installation of the fourth 48,000-kv-a bank of transformers was completed and placed in service. It is now possible to deliver power to the station

high-tension bus from any four of the five 60,000-horsepower generating units concurrently. The operation of this station throughout the year was satisfactory.

Stream flow was at all times adequate to generate primary and secondary load demands. The new Frederick House Lake dam, completed and released to the Operating department on April 15, permits storage of water in Frederick House and Night Hawk lakes for utilization as required to augment the flow of the Abitibi river, thus increasing the dependable output of the Abitibi Canyon generating station during periods of low natural run-off.

There were twenty single-circuit and seventeen double-circuit automatic outages of the high-tension line between Abitibi Canyon and Copper Cliff during the year, of which fifteen double-circuit and fifteen single-circuit outages were due to electrical storms, two double-circuit and two single-circuit outages due to unknown causes, and the remaining three single-circuit outages due to causes external to the lines.

There were fifteen automatic outages of the Abitibi Canyon to Kirkland Lake, Matachewan and Larder Lake high-tension lines, of which fourteen were due to electrical storms and one to a cause external to the lines.

All transformer stations operated satisfactorily throughout the year.

New high-tension switching stations at LaForest and Mattagami, placed in service on July 20 and August 23 respectively, make it possible to isolate any one of the six sections of the two Timmins-Copper Cliff 132,000-volt circuits and retain the remaining five sections in service, where formerly a complete single circuit had to be isolated.

Maintenance

At the Canyon generating station the regular tests and inspections were performed and the necessary maintenance, consisting generally of minor adjustments and repairs, was carried out. On No. 2 turbine it was found that the bolts holding the discharge cone to the runner had worked loose and failed. These were replaced and tack-welded in place to prevent their working loose.

At the various transformer stations the regular tests and inspections were carried out. The maintenance consisted of minor adjustments and repairs to structures and equipment.

On the transmission lines the regular patrols and inspections were carried out. Insulators, damaged in most cases by thrown stones and rifle bullets, were replaced. Brush cutting was done as required and ground treatment applied to a number of poles. A number of poles broken by motor cars were replaced, and, where required by highway construction, pole lines were relocated. On the telephone line from Hunka to Timmins 284 spruce poles were replaced with cedar, 176 poles cut off and reset, 11 spruce poles replaced with spruce cut adjacent to the right-of-way, and 136 poles were fitted with push braces or guys. On the Timmins-Copper Cliff telephone line 601 poles were cut off and reset and 325 poles replaced.

Abitibi District—60-Cycle Division

As mentioned in last year's Report, operations on this district, then known as Espanola district, were discontinued on May 1, 1937, when the McMillan Gold Mines Limited, the sole customer on the district at that time, abandoned operations. However, on July 15, 1938, initial delivery of power to the Denison Nickel Mines Limited, a new customer in this district, was made. Power for delivery to this customer is purchased from the Abitibi Power and Paper Company at its Espanola generating station and is transmitted at 33,000 volts to the Denison Company's receiving station over approximately 24 miles of transmission line.

Operation of the district was quite satisfactory and maintenance requirements were negligible.

Patricia District

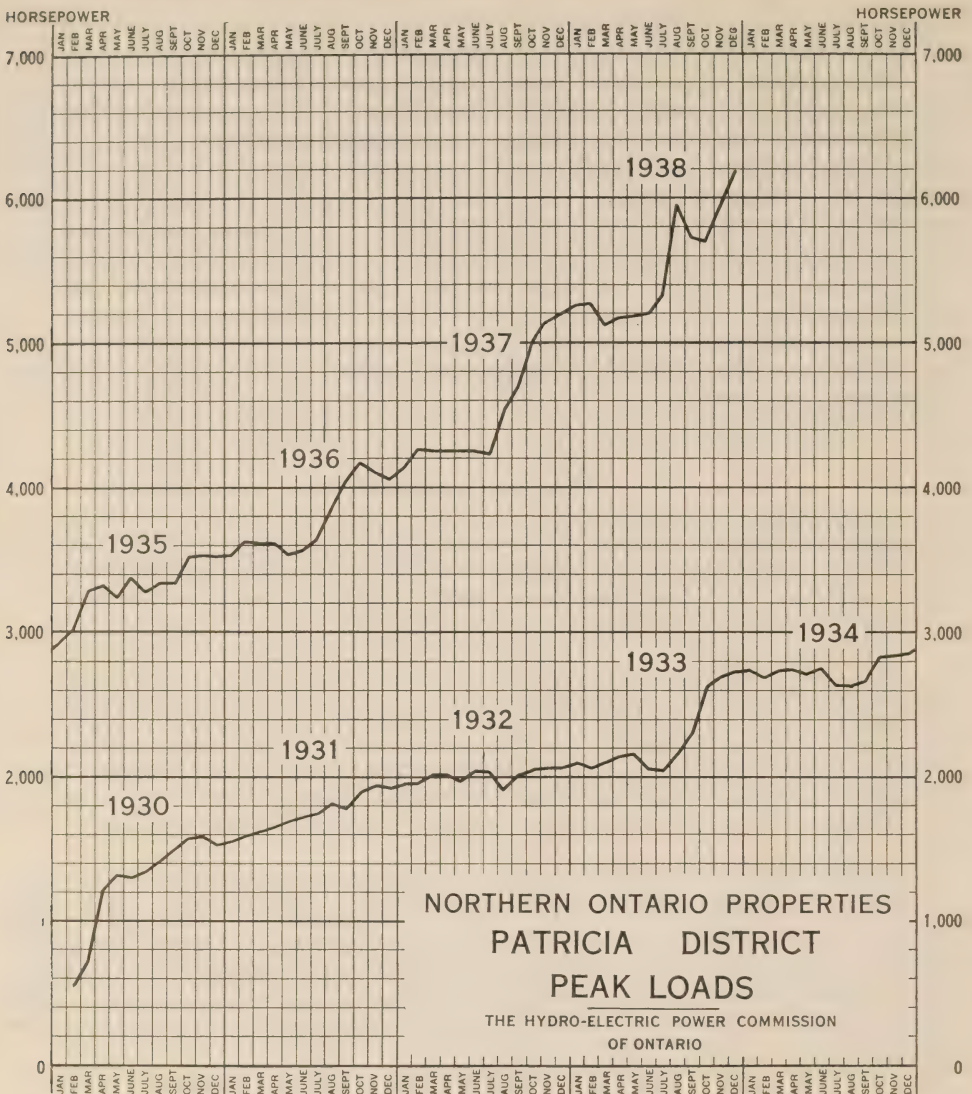
The generating and transformer station at Ear Falls on the English river has operated satisfactorily throughout the year. The load supplied has been higher than in 1937, the maximum yearly twenty-minute peak showing an increase of 19 per cent, and the energy generated being 24 per cent greater.

One new customer has been added. On May 30, power was supplied at 2,300 volts to the J. E. Hammell mining property at Red Lake through the spare transformer bank at Howey Gold Mines. Madsen Red Lake Gold Mines brought its mill into production on August 11, resulting in a considerable increase in load. Operations at Red Lake Gold Shore Mines were suspended on September 11, and this customer has been shut down since that date.

Routine maintenance work has been done on all electrical and hydraulic equipment throughout the year. On December 9, 1937, failure of the belt driving the pilot exciter of No. 1 generator resulted in an interruption of nine minutes to customers. A second failure of this belt drive occurred on March 12, but on this occasion service was not interrupted. Failure of a current transformer on No. 2 generator feeder caused an interruption of 14 minutes on June 14.

The 44,000-volt transmission line between Ear Falls generating station and the Howey Gold Mines was purchased from the latter Company by the Commission as of June 1. Since that time the line has been thoroughly inspected and reconditioned, this work including stubbing of all weakened poles and the application of sand-cresote collars to all poles not already treated. There were four outages of this circuit during the season due to lightning, but no permanent damage was done to the line. On September 11, by arrangement with the customers, the line was taken out of service for 1 hour and 37 minutes in order to replace cross arms at two 2-pole structures. The sections of 44,000-volt transmission line owned by the various mining companies have given satisfactory service throughout the year.

The flow in the English river has been regulated and controlled by means of the Lac Seul conservation dam at Ear Falls as required by the Lake-of-the-Woods Control Board.



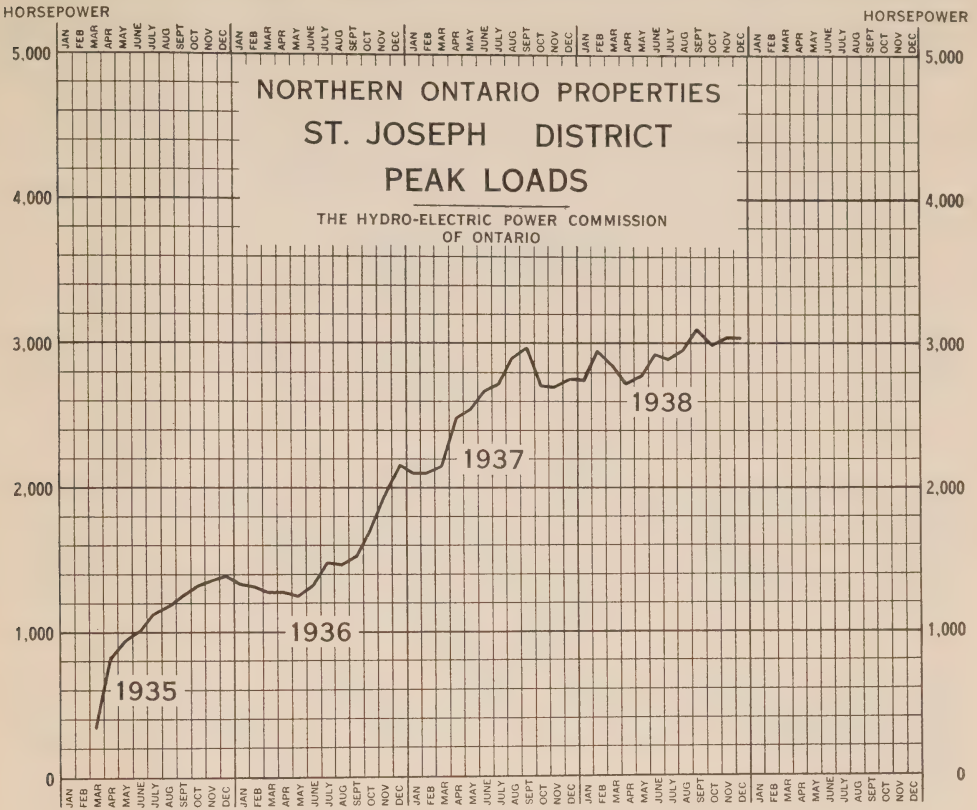
The precipitation in the vicinity of Ear Falls has been above average, 27.31 inches being recorded. The elevation of Lac Seul on October 31 was 1,169.82 as compared with 1,170.65 at the same date last year.

St. Joseph District

The load in this district shows an increase, the maximum yearly twenty-minute peak being 4.3 per cent higher, and the energy generated being 21 per cent greater than in the previous year.

No new customers have been added. Operations at the Springer property of the Central Patricia Gold Mines were resumed on May 2. The Albany River Gold Mines discontinued mining operations on July 7, and only a small amount of power was taken by this customer subsequent to that date.

All electrical and hydraulic equipment has functioned satisfactorily throughout the year. By arrangement with the customers, No. 1 and No. 2



generators and associated equipment were taken out of service in turn during the period September 4 to 6 for inspection and general maintenance. The load on the system was restricted to the capacity of the respective generators during this period.

The 22,000-volt single-circuit transmission line between the generating station and the mining customers has given good service. There were two outages of this circuit due to lightning and three other occasions when troubles during electrical storms caused No. 1 generator to trip off the line, resulting in a partial load loss to the customers. Heavy wet snow on the line also caused No. 1 generator to trip out on two occasions. In every case service over the line was immediately resumed. The line has been carefully inspected, poles straightened, guys tightened, and trees cut down where necessary along the right-of-way. Chipped insulators were replaced on three poles, using live-line tools.

A defective 22,000-volt bushing in one transformer at Central Patricia Gold Mines, while it did not cause any interruption to power service, caused considerable disturbance on the system before the trouble was definitely located.

The precipitation in the vicinity of Rat Rapids was relatively high this year, 26.43 inches being recorded. The elevation of lake St. Joseph on October 31 was 1,225.54 as compared with 1,226.43 for the same date last year.

NORTHERN ONTARIO PROPERTIES—LOADS OF MUNICIPALITIES—1937-1938

Municipality	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase

NIPISSING DISTRICT

Callander.....	253.1	150.4	102.7	.....
Nipissing.....	3.0	3.0	.....	.....
North Bay.....	3,781.5	4,020.7	.....	239.2
Powassan.....	155.5	153.2	2.3	.....

SUDBURY DISTRICT

Capreol.....	195.7	195.7	.....	.....
Sudbury.....	7,186.3	8,230.3	.....	1,044.0

ABITIBI DISTRICT

Hislop Townsite.....	16.2	25.7	.....	9.5
King Kirkland Townsite.....	28.5	35.5	.....	7.0
Matachewan Townsite.....	117.0	137.4	.....	20.4
Mooretown Townsite.....	.....	53.3	.....	.....
Ramore-Matheson Townsite.....	84.8	123.7	.....	38.9

NORTHERN ONTARIO PROPERTIES—LOADS OF RURAL POWER DISTRICTS—1937-1938

Rural power district	Peak load in horsepower		Change in load 1937-1938	
	July to Dec. 1937	July to Dec. 1938	Decrease	Increase

NIPISSING DISTRICT

North Bay.....	248.7	356.3	107.6
Powassan.....	9.2	12.5	3.3

SUDBURY DISTRICT

Sudbury.....	120.9
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SECTION III

MUNICIPAL WORK

THE Commission acts in an advisory capacity to the municipalities with which it has contracts, and assists the municipal officials to purchase, construct or extend distribution systems. As provided under *The Power Commission Act*, all rate adjustments are approved by the Commission, therefore, a study of the operating conditions of all utilities is made annually and adjustments recommended.

In rural power districts, the Commission on behalf of the township corporations operates the rural power systems, and distributes electrical energy to the customers of the respective corporations in all such rural power districts.

NIAGARA SYSTEM

New contracts were entered into, or revised, for supplies of purchased power to meet the requirements of this system for a number of years. The contracts were as follows:

Gatineau Power Company and Gatineau Transmission Company: Maximum supply of 260,000 horsepower, to be supplied as follows: December 1, 1937, 165,000 horsepower; November 1, 1938, 200,000 horsepower; November 1, 1939, 260,000 horsepower.

Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company, Limited: Maximum supply of 250,000 horsepower, to be supplied as follows: December 14, 1937, 125,000 horsepower; November 1, 1938, 150,000 horsepower; November 1, 1941, 200,000 horsepower; November 1, 1942, 225,000 horsepower; November 1, 1943, 250,000 horsepower.

Ottawa Valley Power Company: This contract for 96,000 horsepower was unchanged.

Maclaren-Quebec Power Company and The James Maclaren Company, Limited: Maximum supply of 100,000 horsepower to be supplied as follows: December 14, 1937, 40,000 horsepower; November 1, 1938, 60,000 horsepower; November 1, 1940, 80,000 horsepower; November 1, 1944, 100,000 horsepower.

The aggregate load supplied to urban municipalities and rural power districts on this system during the year 1938, increased substantially.

The municipal load supplied showed an increase in 140 municipalities and a slight decrease in 27 municipalities.

All the rural power districts of the system, 86 in number, experienced an increase in load.

Engineering Assistance to Municipalities

General engineering assistance was given to nearly all municipalities of the Niagara system respecting the operation and management of their local Hydro utilities.

Certain municipalities received special engineering advice and assistance respecting matters which are more fully referred to below:

Blenheim—Approval was given for the expenditure of \$10,000 for the construction of a Hydro building. The building is expected to be ready for occupation in January, 1939.

Brampton—All pole lines were removed from the business streets and the original street lighting was replaced with modern units carried on ornamental standards.

Brantford—All domestic and commercial consumers, originally served from the Western Counties system, have had their equipment changed and are now being served from the 25-cycle system of the Brantford Public Utilities Commission.

Caledonia—The local distribution system was changed from 2,200 volts to 4,000 volts and certain improvements were made.

Chatham—A new substation on Queen street is being constructed at an estimated cost of \$39,500. It is expected to be in service early in the coming year.

Chippawa—An ornamental lighting system, using steel standards with modern lighting units, was installed on the main thoroughfares. The lighting is materially improved and the wood poles carrying house-lighting circuits have been removed to the rear of the business premises.

Dunnville—The ornamental-lighting system is being remodelled.

Dutton—An ornamental street-lighting system on the main street is being considered.

Fergus—All lines were removed from the two business blocks in the centre of the village, services being changed to the rear of the buildings or racked along the fronts.

Fonthill—Modern street-lighting units were installed in the centre of the village.

Delhi—The distribution system, formerly owned by the Delhi Light and Power Company, was purchased. The Delhi Light and Power Company's system was operated at 60 cycles and conversion to 25 cycles was necessary before Hydro service could be used. This was made available on April 1, 1938.

Forest Hill—On January 1, 1938, the village undertook operation of its own distributing system, which was formerly operated by the Toronto Hydro-Electric System under an agreement with York township. Power is supplied to the village in part by The Hydro-Electric Power Commission of Ontario and in part by the Toronto Hydro-Electric System. This arrangement will continue until December, 1939, after which all power will be supplied by the Commission.

Harrow—A new community hall, in which The Hydro-Electric Power Commission has rented office space, is being built. It is expected that the new Hydro office will be ready for occupancy about January 31, 1939.

London—An outdoor transformer substation was built to supply the Waterworks department with power to operate the new well between Byron and Lambeth.

London Township Voted Area—Improvement to the street lighting on Richmond street was made by installing centre-suspension units of higher wattage. Ornamental street lighting was also installed on a new subdivision.

Mitchell—Alterations and additions to the primary and secondary lines were made in preparation for a change in primary voltage from 1,100 volts to 4,000 volts.

Ridgetown—Approval was given for the expenditure of \$2,000 for the purchase of a lot and a cement block building. The work of improving the street-lighting system was commenced.

Rodney—An ornamental street-lighting system was installed for two blocks on the main street. It was possible to eliminate the overhead wiring and greatly improve the general appearance of this portion of the village.

St. Thomas—A 1,500-kv-a, three-phase transformer, outdoor type, was installed, at a cost of \$10,000, on leased property on Wellington street, to supply a residential lighting load of 110 kw. in the south-east section. It is served from a nearby 13,200-volt feeder thereby eliminating 4,050 feet of 2,300-volt feeder and improving voltage regulation. This No. 3 substation will relieve the main station where transformers were fully loaded.

Simcoe—An additional 500-kv-a station transformer was installed to complete the second bank at the substation, thus giving the municipality 3,000 kv-a in transformer capacity.

Springfield—The distribution system was changed and the voltage supply raised from 4,000 to 8,000 volts.

Stratford—An underground-feeder system was installed at the Stratford municipal station for the purpose of removing a very congested condition, and also to eliminate hazards due to a multiplicity of lines.

Tavistock—An office building costing \$3,200 was constructed on land owned by the corporation.

Waterford—Plans were submitted for improvements in the distribution system to provide adequate service. This work is being done by the local Commission.

Watford—An ornamental street-lighting system was installed in the business section of the village.

Windsor—The capacity of the Walkerville No. 2 municipal station was increased from 3,000 to 6,000 kv-a. Extensive changes were made on the distribution system in East Windsor, Walkerville and Sandwich sections of the city, and induction regulators were installed on all 4,000-volt lighting feeders.

Woodstock—Due to the increase in the industrial load in the north-west section of the city, it was necessary to increase the 13,200/2,300-volt station transformer capacity by 600 kv-a. More primary feeder was placed underground on the north side of Dundas street, thus eliminating fire hazards. Improvements are being made to the street lighting in the business section of the city.

GEORGIAN BAY SYSTEM

Extensive load growth took place on this system in both urban municipalities and rural power districts, the total increase over 1937 in average load sold being 8.8 per cent.

Increases were recorded in 46 out of a total of 59 urban municipalities, and slight decreases in 13 municipalities.

The aggregate load in the rural districts was 28 per cent greater than in the previous year, with load increases taking place in 47 of 48 rural power districts, one only showing a slight decrease.

Assistance and general engineering advice was given to all of the municipalities on the Georgian Bay system in connection with the operation of their local distribution systems.

Special engineering advice and assistance was given to the following municipalities, chiefly with respect to the matters referred to:

Brechin—Extensive rehabilitation was carried out on the distribution system, which, on the main street of the village, was practically rebuilt.

Gravenhurst—The distribution system was converted from two-phase, 2,200 volts, to three-phase, 4,000 volts, and reconstructed. A new building was erected in which modern switching equipment for controlling the local distribution system was installed and accommodation for additional office space and the storage of material, tools and truck was provided.

Port Perry—The distribution system poles were removed from the business section of the main street and ornamental street-lighting standards and fixtures erected.

Priceville—The local transformer station was rehabilitated and increased in capacity and the local distribution system was rearranged to handle a large rural load.

EASTERN ONTARIO SYSTEM

The normal increase in power sold on the Eastern Ontario system continued during the year 1938 and all except five of the cost contract municipal utilities increased their load. In the five municipalities referred to, the load was practically stationary. The total amount of power sold to cost contract municipalities and rural power districts increased from 87,806 horsepower in 1937 to 101,000 horsepower in 1938, an increase of 15 per cent.

The Eastern Ontario system took delivery of the last block of power under the Gatineau contract on October 1, 1938. Under this contract the Gatineau Power Company is obligated to deliver a total of 60,000 horsepower. Up to October 1, 1938, 42,000 horsepower was being taken by the Eastern Ontario system. On this date the system took delivery of the last block of 18,000 horsepower which will take care of the estimated increase of load for 1939 and will act as a reserve for the system.

General engineering assistance was given to nearly all municipalities in the Eastern Ontario system, respecting the operation and management of their local Hydro utilities.

Certain municipalities received special engineering advice and assistance with regard to matters detailed below:

Belleville—An agreement with the Public Utilities Commission was reached whereby the Commission purchased No. 1 substation on Reid street in the northern part of the city. This enables the local utility to purchase power at 44,000 volts, effective November 1, 1937.

Bowmanville—All poles and wires were removed from the business section of King street and an improved street-lighting system was installed. Ornamental standards are used with 500-watt units spaced approximately 100 feet apart on both sides of the street. All street-lighting wires are underground on King street.

Kingston—The Public Utilities Commission has purchased from the Commission the substation switching equipment and is installing step-down transformers. It has also taken over the high-tension lines within the city connecting the Commission's high-tension station with the city substation and these lines are being rearranged with short sections of new high-tension line to provide more flexible connections for delivery of power.

Millbrook—Arrangements were completed for the municipality to vote on the question of purchasing the local distribution system.

Newcastle—On March 1, 1938, the corporation took charge of the administration and operation of the local system which about a year previously had been purchased from The Hydro-Electric Power Commission and had since been operated by the Commission in trust for the corporation.

Orono—The Police Trustees of the village obtained information respecting the operation of the distribution system, and arrangements were made to vote on the question of its purchase.

Oshawa—The removal of all poles and wires from the business sections of King and Simcoe streets and the installation of a new street-lighting system in this area was studied. The street-lighting standards will also be used by the Oshawa street railway.

Peterborough—To provide for the rapid growth of load, additional transformer equipment was purchased and installed in the municipal station, bringing the total capacity up to 12,000 kv-a.

THUNDER BAY SYSTEM

This system is made up of the cities of Port Arthur and Fort William, the township of Nipigon, and the Port Arthur and Fort William rural power districts, all of which are operated under cost contracts. All of the other customers of the system are served under fixed rates. Other than for municipal purposes power is used largely by the pulp and paper industry, the demands of which approximate 50 per cent of the total load sold on the system, the balance being divided approximately 25 per cent for municipal service and 25 per cent for the grain trade and the mining industry.

Curtailed operations of the pulp and paper industry caused a falling off in the total load sold on the Thunder Bay system during the year 1938. Due, however, to an increase in the municipal loads and to an increase of nearly 50 per cent in the power demand of the mining industry, and also to an increase in the power requirements of terminal grain elevators following improved crop conditions in the West, the net reduction in load as compared with 1937 was only about 5 per cent. The municipal load increase in Fort William approximated 8.7 per cent, and in Nipigon township, 44 per cent. In Port Arthur where two pulp and paper customers are served there was a decrease of 13 per cent. The actual reduction in the pulp and paper load in that city was much greater, but the net decrease was minimized by the heavy increase in the municipal load.

The total increase in load sold in the two rural power districts was 26 per cent.

Engineering assistance concerning the operation of the local distribution systems was given to the cities of Fort William and Port Arthur and to Nipigon village.

MANITOULIN RURAL POWER DISTRICT

The Manitoulin rural power district comprises the entire area of Manitoulin island. Power is purchased by the Commission from the Manitoulin Pulp Company's development at Kagawong and distributed to various consumers in the rural districts lying between Gore Bay, Mindemoya, and Manitowaning.

Due to a substantial increase in load it was necessary for the Manitoulin Pulp Company to install an additional 250 kv-a generating unit. This was placed in operation during the year, and a new agreement was executed between the Commission and the Company, involving the purchase of power. Additional distribution lines were constructed to serve 120 new consumers. Provision was also made for constructing an extension to South Bay Mouth to serve 35 consumers.

NORTHERN ONTARIO PROPERTIES

The generating plants and transmission lines utilized by the Commission in Northern Ontario, other than those of the Thunder Bay system, are operated in trust by the Commission on behalf of the Province. They are known as the Northern Ontario Properties, and power is supplied largely to the mining industry and to the communities adjacent to large operating mines; with one exception, viz: the Nipissing district, which includes the city of North Bay. As in previous years there has been a remarkable increase in the load supplied for mining operations, the increase being approximately 22 per cent over the previous year. At the present time 49 operating mines are being served and 9 new mining properties were supplied with power. In addition to mining customers, the Commission, in the districts included in the Northern Ontario Properties, is supplying power to two cities, three towns, and six villages, townsites and hamlets, also to two rural power districts. It is expected that a considerable expansion, both to many existing distribution systems and in many new districts will take place in 1939.

Engineering advice and assistance relative to power supply and operation of local distribution systems was given to the towns of Cochrane and Sioux Lookout, and information was supplied to a number of rural districts concerning the possibility of securing Hydro service.

The activities in the various districts of the Northern Ontario Properties are detailed as follows:—

Nipissing District

This district includes the area adjacent to the city of North Bay, the town of Powassan, the village of Callander, and adjacent rural communities. Power is supplied from three hydro-electric developments on the South river which are connected by tie transmission line to the Crystal Falls development on the Sturgeon river. Power supplied in this district is utilized entirely for municipal purposes.

Sudbury District

This district covers the area adjacent to the city of Sudbury. Power is supplied from three hydro-electric developments on the Wanapitei river interconnected by a tie transmission line to the Crystal Falls development on the Sturgeon river, to the city of Sudbury, the town of Capreol, the International Nickel, and the Falconbridge Nickel Companies. A rural distribution system was constructed and placed in operation in McKim township during the year, and studies and investigations were made with respect to extending this distribution system, and also in connection with constructing distributing lines in the townships of Neelon and Garson.

Engineering advice and assistance was given to the local commissions in Sudbury and Capreol in connection with the management and operation of their distribution systems.

Abitibi District

The area served by the Abitibi Canyon development and associated transmission lines is known as the Abitibi district. It includes the territory between and adjacent to Sudbury, Timmins, and the Quebec border and

power is supplied to the mining districts of Porcupine, Shining Tree, Sudbury Basin, Matachewan, Kirkland Lake and Larder Lake. The load growth experienced in recent years has continued; 27 mining properties were served with power and 6 new mining customers were added. The increase in load growth of primary power was 22 per cent. Extensive engineering studies respecting additional transmission line and transformer capacity were made, and it is expected that additional equipment will be added next year.

All of the mining properties under contract with the Commission, as well as most of the other properties in the development stage were visited on various occasions for the purpose of rendering assistance in connection with their power supply.

The distribution systems in the mining townsites of Matachewan, Hislop and King Kirkland, also in the town of Matachewan and the village of Ramore, in all of which service to individual consumers is supplied directly by the Commission, were successfully managed and operated during the year. Substantial increases were recorded both in the number of customers served and in the amount of power supplied.

Power is purchased by the Commission from the Abitibi Power and Paper Company's hydro-electric development at Espanola. This power is at 60 cycles and the area supplied, formerly known as the Espanola district, is now part of the Abitibi district. One new mining customer was served during the year and 6.9 miles of transmission line were constructed for that purpose.

Patricia District

All of the area served by the transmission system based upon the Ear Falls development is known as the Patricia district, included in which are the mining districts of Red Lake and Woman Lake. The transmission line formerly owned by the Howey Gold Mine was purchased and rehabilitated. The local distribution system serving consumers adjacent to the Howey Mine was purchased and service to individual consumers in that area is now being handled directly by the Commission. Negotiations were carried on concerning service to three mining properties in the Woman Lake district and it is expected that a new transmission line will be constructed from the Ear Falls development into the Woman Lake district early next year.

All mining properties under contract with the Commission as well as those in the development stage were visited on various occasions and assistance rendered in connection with matters pertaining to power supply.

St. Joseph District

The area served by the transmission system based upon the Rat Rapids development on the Albany river is known as the St. Joseph district. The principal mining customers served are in the Pickle Lake area. As the Rat Rapids development is now loaded to capacity, extensive studies were made with respect to providing an additional development. As an alternative the possibility of constructing between the Uchi and Central Patricia mines, an interconnecting link which would serve to connect the Rat Rapids and Ear Falls developments was carefully investigated. As a result of these studies, it was decided to construct the interconnecting transmission line, and it is expected that this work will be undertaken early next year.

RURAL ELECTRICAL SERVICE

IN ONTARIO

THE advent of electrical service, and the construction of transmission lines in the rural districts of Ontario have become symbols of agricultural progress. During the past year the mileage of primary lines approved for construction in rural power districts of Ontario reached a new high record of 2,660 miles to serve more than 14,000 additional customers. The previous records were 2,300 miles in 1937 and 1,894 miles in 1930. Most of these lines were actually constructed during the year, or were under construction at the year's end. Due to the exceptionally heavy programme, a few lines approved in 1938 will not be completed until early in 1939.

The lowering of the service charge and the reduced requirements respecting the number of consumers per mile of line has in the past two or three years resulted in a phenomenal growth in the extension of service in rural power districts. The aggregate load supplied to all rural Hydro consumers in the Province increased during the year 1938 by 17.3 per cent. This substantial growth indicates an extended appreciation of electrical service, and an ability to install equipment to utilize this service.

The Province of Ontario extends over a vast area of 400,000 square miles, the southern part of the Province commonly known as "Old Ontario," comprising most of the settled area. In this territory there is an assessed area of approximately 40,000 square miles containing about twenty-two million acres, of which 75 per cent is land cleared for agricultural purposes. The total rural population in this area exceeds 1,100,000.

Census data indicates that there are approximately 200,000 farms in Ontario, varying from one acre to six hundred acres, or larger. It would be erroneous, however, to conclude that hydro-electric service will eventually extend to such a number of farms. Approximately ten per cent of these are very small, and service to them, if available, is supplied by the Commission under rates applicable to non-farm classes. There are also large numbers of farms jointly owned and tenanted, some having no residential buildings on them, and there are also a large number situated in remote districts out of reach of Hydro lines and stations.

During the period that the regulations respecting service to rural consumers required a minimum of three farm contracts per mile of primary line the Commission made surveys in various parts of the Province and estimated that approximately 75,000 standard or large farms would comprise the probable ultimate total of farms that could be served on this basis. Since that time new regulations have been made permitting service on the basis of two farms per mile, which necessarily has increased the number of additional farms that may be served.

For the next year it is anticipated that the miles of primary line constructed will approximate the number constructed during the past few years. As the lines extend into the more remote districts, however, the average number of farms that can be served per mile of line and the number of farms remaining to be served will become smaller, and therefore the mileage of rural lines constructed each year will decrease.

The distribution of power in, as well as the wholesale supply of power to, Ontario rural communities is almost entirely carried out by The Hydro-Electric Power Commission. A very limited amount is supplied by private companies. The Commission organizes service to consumers in townships or parts of townships which can be grouped into economic areas known as rural power districts and in doing so, acts as trustee and agent for the various townships of the Province.

There are 178 operating rural power districts, and power is delivered to approximately 100,000 rural consumers, comprising farms and dwellings in various groups. The consumers are situated in 398 townships and 98 police villages, and are served over networks of rural primary lines which aggregate more than 15,700 miles. In addition to the 398 townships served by rural power districts, 10 townships are served jointly by rural power districts and voted areas.

Promotional Efforts

The benefits of rural electrical service are explained to prospective rural consumers by means of direct information given by the Commission's employees, by demonstrations at annual fairs and exhibitions, and through the press.

The four principal farm magazines in Ontario established an editorial service whereby one or more leading editorials on the use of electricity in farming are featured each month, and the Commission has used these magazines to advertise special features of Hydro service to all its customers.

An active campaign has been carried on to encourage rural consumers to purchase electric ranges. An allowance of twenty dollars to purchasers of new electric ranges is offered to help defray the cost of installation.

The Commission has observed that quite a large proportion of consumers in rural power districts fail to make much more than a minimum use of the service and do not appear to appreciate fully how much more service can be obtained by a comparatively small addition to their monthly bills. Efforts are being made to explain this and other features of Hydro service to the farmer in ways which will appeal to him. Not only has the service charge to the rural citizen been made very small but the number of kilowatt-hours charged for at his first energy rate is usually smaller than in cities, towns and villages. Consequently, a very moderate use of energy brings him into the position where additional energy can be obtained for the low follow-up rates in force.

Uses for Electricity

As a result of the continued efforts of the Commission and other kindred interests the farming communities now have a better knowledge of the many uses to which electrical service may be applied. The progressive farmer, through information obtained and through his own inventive application, now finds



POULTRY RANCH IN LISTOWEL RURAL POWER DISTRICT

The poultry ranch pictured above first started in a small way in 1924. Hydro service was first taken in 1927, when a total of 210 kilowatt-hours was used. During 1938 the consumption increased to 175,000 kilowatt-hours. The annual output of this plant now exceeds 300,000 baby chicks, and 1,125,000 eggs. Hydro power is used exclusively, even to grinding of the feed

many new uses for electrical service. It would be impossible in this Report to describe these at length, but they may be classified under the following heads:

Lighting Service—Electric lighting is safe, convenient and time saving. It adds to the comfort and attractiveness of the farm home and reduces fire hazard to a minimum. Against the cost of energy for lighting may be set the cost of coal oil or candles. Even at 6 cents per kilowatt-hour, a 40-watt lamp can be operated nearly 24 hours for 5 cents.

The progressive farmer is using controlled lighting for increasing the production of eggs and, what is more important from the viewpoint of financial returns, obtaining a greater proportion of the annual egg yield during the months when prices are high. Special forms of lamps, such as the infra-red or heat lamps, can be used to prevent rheumatism, etc., in litters of pigs, while ultra violet lamps have proven effective in preventing rickets in young pigs and chicks, eliminating losses and providing a more rapid and sturdy growth.

Power Service—Next to lighting, the energy used for mechanical purposes gives the most valuable service for the money expended for electricity.

In the farm home washing machines, vacuum cleaners, fans and furnace blowers contribute to making the farm home equal in comfort to one in the city. Motor-driven pumps supply water for sanitary systems and general house and farm use.

In the barn, dairy and workshop of the farm, electric motors may be employed for chopping feed, wood cutting, hay hoisting, milking, cream separating, churning and the many purposes of the farm workshop. Electric milking machines reduce labour at milking time to one-half and their regular use increases the milk flow and fat content.

The cost of electricity for operating small motor-driven appliances, such as washing machines and pumps for the use of water under pressure for sanitary purposes, is very small. With energy at the 2-cent per kilowatt-hour rate, a $\frac{1}{4}$ -horsepower motor can be operated at full load for three hours for 1 cent. As actually used in motor-driven appliances, the motors frequently operate at less than full load or, under automatic operation as in pumping and refrigeration, for only 25 to 50 per cent of the 24 hours.

Electric Refrigeration—This is a special application of power service. Its use promotes health and comfort and reduces food losses. Ice obtained from neighbouring ponds is frequently contaminated and has endangered the health of many farm dwellers. Electric refrigeration is of special assistance in connection with dairy operations. The farmer can accumulate his separated cream for a few days with safety and can improve the marketing quality of his milk by cooling. It is also useful in egg storage.

Heating Service—Under this head come: the minor appliances of hand irons, ironing machines, toasters and hot plates, which owing to their intermittent use consume relatively small quantities of electricity per month; the major heating appliances of ranges and water heaters which need relatively large quantities of energy for their operation, and the special applications of electricity for incubating, brooding, etc., and for soil heating which only becomes economically profitable when the current used is available at specially low rates.

The electric range, although a heavy user of current, is efficient and the cost of operation is more than offset where the farmer can more advantageously employ his time than in hauling and chopping wood for the stove. It is safer and in summer provides cool cooking in comfort for the farmer's wife and also leaves her free to undertake more useful work.

Entertainment Service—Radios provide entertainment, general information and a familiarity with current events and market prices which have done much to make life on the farm more attractive and profitable. The many applications of power in a farm workshop will provide countless hours of valuable recreation and pleasure.

Miscellaneous—The miscellaneous applications of electricity seem only to be limited by the ingenuity of the farmer in adapting this modern flexible agent to his various needs. It is used when spraying against insects and to paint the barn, for incubating, brooding and for the control of humidity and ventilation in connection with poultry raising, to prevent the freezing of vegetables, to cook supplementary food for hogs and in countless other ways.



SOIL HEATING BY ELECTRICITY

Under-soil electrical heat, used for propagating seeds and developing early lettuce on top bank and for growth of mushrooms below

Recent estimates of the major electrical appliances used in rural power districts are set out in the following table:

ELECTRICAL APPLIANCES IN USE IN RURAL POWER DISTRICTS
Data for all systems for the year 1937

On the farm			In the farm home		
Item	Number of appliances	Percentage of saturation	Item	Number of appliances	Percentage of saturation
Motor.....	6,462	16.97	Range.....	6,462	16.97
Pump.....	4,939	12.97	Hot plate.....	8,300	21.80
Grain grinder.....	2,087	5.48	Washer.....	21,909	57.54
Milking machine.....	986	2.59	Vacuum cleaner.....	4,859	12.76
Milk cooler.....	553	1.45	Water heater, flat rate..	1,281	3.36
Cream separator.....	2,356	6.19	Water heater, metered..	637	1.67
Churn.....	367	0.96	Grate.....	288	0.75
Incubator.....	419	1.10	Portable air heater....	3,748	9.84
Brooder.....	322	0.84	Ironer.....	459	1.21
Hot bed.....	39	0.10	Hand iron.....	28,672	75.31
Water heater, flat rate..	55	0.14	Refrigerator.....	3,786	9.94
Water heater, metered..	47	0.12	Toaster.....	19,941	52.37
Air Compressor.....	66	0.17	Radio.....	26,090	68.52
Battery Charger.....	55	0.14	Furnace blower.....	540	1.42
Miscellaneous.....	332	0.87	Pump.....	5,603	14.72
			Sewing machine.....	73	0.19
			Miscellaneous.....	945	2.48

The following table is also of interest, when a comparison is made between rural and urban use:

ELECTRICAL APPLIANCES IN USE IN HOMES OF URBAN AND RURAL CONSUMERS—1937

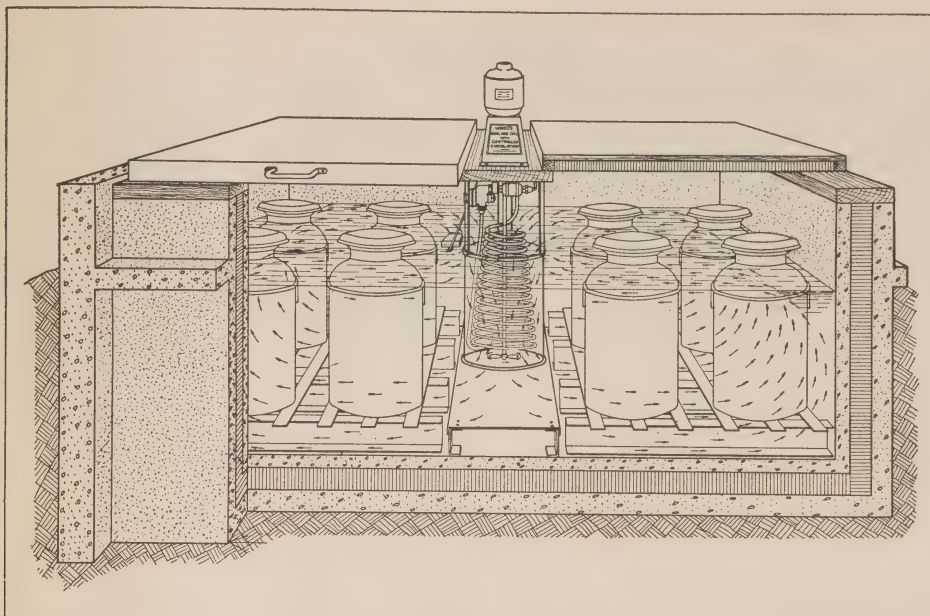
Electrical appliance	R.P.D. hamlet		R.P.D. farm		Urban	
	No. of appliances	Percentage of saturation	No. of appliances	Percentage of saturation	No. of appliances	Percentage of saturation
Range.....	4,992	11.26	6,462	16.97	141,581	28.6
Hot plate.....	9,600	21.65	8,300	21.80	83,521	16.9
Washers.....	18,599	41.94	21,909	57.54	224,992	45.5
Vacuum cleaner.....	5,365	12.10	4,859	12.76	151,448	30.6
Water heater (flat rate)...	993	2.24	1,281	3.36	47,151	9.5
Water heater (metered)...	781	1.76	637	1.67	44,745	9.1
Grate.....	340	0.77	288	0.75	36,289	7.3
Air heater.....	3,379	7.62	3,748	9.84	146,313	29.6
Ironers.....	402	0.91	459	1.21	11,315	2.3
Irons.....	30,142	67.98	28,672	75.31	469,045	94.9
Refrigerators.....	4,177	9.42	3,786	9.94	76,974	15.6
Toasters.....	20,642	46.55	19,941	52.37	282,294	57.1
Radios.....	28,237	63.68	26,090	68.52	356,761	72.2
Furnace blower.....	678	1.53	540	1.42	23,371	4.7

Recent Benefits to Rural Consumers

Effective May 1, 1938, the Commission received authority by Order-in-Council to construct rural primary lines on a basis of two farms per mile under existing rates. This new basis does not include service to summer cottages, which remains on the previous basis of three farms per mile. The standard number of consumers required per mile varies according to the class of service rendered. For this purpose a unit rating is allocated to each class of consumer. A total of ten units per mile made up by various classes of consumers is required before construction work is undertaken.

The following table indicates the number of units used for each class of service:

Class of consumer	Service	Units per class applicable to number per mile—May 1, 1938			
		A—Regular rural consumers		B—Summer cottage consumers	
		Units per contract	Contracts per mile	Units per contract	Contracts per mile
1B	Hamlet lighting.....	2.25	4.4	1.50	6.7
1C	Hamlet lighting (range).....	3.75	2.7	2.50	4.0
2A	House lighting.....	1.90	5.3	1.25	8.0
2B	Small farm service (50 acres or less)...	3.50	2.9	2.35	4.3
3	Light farm service (over 50 acres)...	5.00	2.0	3.35	3.0
4	Medium farm service (single-phase)...	5.00	2.0	3.35	3.0
5	Medium farm service (three-phase)...	5.00	2.0	3.35	3.0
6A	Heavy farm service (single-phase)...	5.00	2.0	3.35	3.0
6B	Heavy farm service (three-phase)...	5.00	2.0	3.35	3.0
7A	Special farm service (single-phase)...	5.00	2.0	3.35	3.0
7B	Special farm service (three-phase)...	5.00	2.0	3.35	3.0



RURAL ELECTRICAL SERVICE IN ONTARIO

Milk cooling by electric refrigeration with agitation is now being used by progressive Ontario farmers to their economic advantage. It is reported that this method of cooling is less expensive, more reliable and certainly cleaner than ice

Maximum Consumption Charge

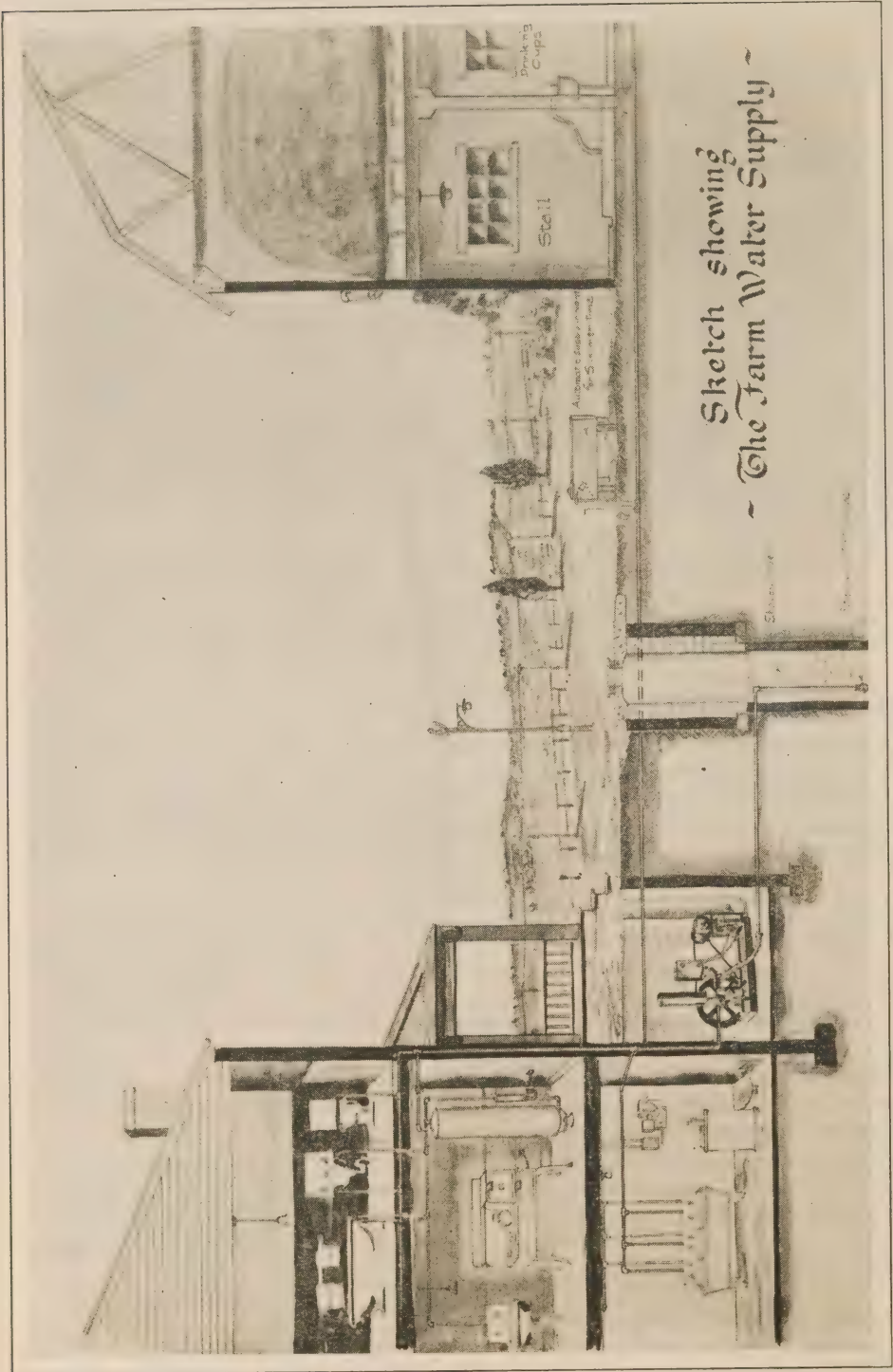
The Commission has found that the maximum economic limit of the first domestic use throughout the rural power districts of the Province is 6 cents per kilowatt-hour. In all rural power districts, the first consumption rate is fixed at a maximum of 6 cents per kilowatt-hour. The second rate has a maximum of 2 cents per kilowatt-hour which applies to all districts.

Low Third Consumption Rate for Long-Hour Users

In 1934 the Commission made available for rural consumers a special energy rate for long-hour uses of power by rural consumers. This particularly affects under-earth heating (hot-beds) and heating of water. Where the extra use of energy may be obtained from the present equipment, a third follow-up rate per kilowatt-hour of 0.75 cents gross is given in all districts. The first rate remains unchanged, except that as pointed out above it is subject to a maximum of 6 cents per kilowatt-hour, and the kilowatt-hours to be charged at the first rate remain unchanged. The number of kilowatt-hours to be charged at the second rate varies both with the class of service and the first kilowatt-hour rate. At the head of the table of rural rates at the end of this section is a schedule which shows the class of service, the number of kilowatt-hours per month to be charged for at the first rate, and the number of kilowatt-hours at the second rate according to the governing first rate.

Average Cost to Rural Consumers Decreasing

The remarkable benefits obtained by rural communities in regard to the amount charged to them during the period 1928 to 1938 is indicated in the following tables:



RURAL ELECTRICAL SERVICE IN ONTARIO

A complete automatic water supply to the house, barn and water trough, provides all the conveniences of water service that city dwellers enjoy. The above sketch shows a complete layout, excepting the tank and effluent disposal, which must be located in an area remote from the well

HAMLET SERVICE
Classes 1B, 1C and 2A

Year	Annual Revenue	Kilowatt-hours consumed	Number of consumers billed*	Average revenue per kw-hr.	Average monthly bill	Average monthly consumption kw-hr.
1928	\$ 530,407.00	10,702,031	17,585	4.95c	\$2.51	50.7
1929	663,311.00	14,424,770	21,219	4.60	2.85	62.0
1930	757,558.00	17,815,987	25,013	4.25	2.73	64.2
1931	974,224.17	22,127,474	31,176	4.40	2.88	65.6
1932	1,075,081.03	24,654,386	33,638	4.36	2.76	63.3
1933	1,133,368.70	25,410,470	35,941	4.46	2.70	60.1
1934	1,149,876.67	27,768,460	37,466	4.14	2.61	63.0
1935	1,171,873.28	30,802,290	39,751	3.80	2.53	66.5
1936	1,239,010.83	35,666,241	43,014	3.47	2.49	71.8
1937	1,331,919.46	40,935,040	46,785	3.25	2.47	76.0

FARM SERVICE
Classes 2B, 3, 4, 5, 6A, 6B, 7A and 7B

Year	Annual Revenue	Kilowatt-hours consumed	Number of consumers billed*	Average revenue per kw-hr.	Average monthly bill	Average monthly consumption kw-hr.
1928	\$ 569,007.00	10,969,828	9,309	5.18c	\$4.97	96.1
1929	777,736.00	16,022,842	12,605	4.85	5.85	120.8
1930	863,805.00	20,507,063	16,011	4.21	5.03	119.4
1931	1,128,554.28	25,716,141	20,796	4.39	5.11	116.4
1932	1,255,482.13	28,675,400	22,432	4.38	4.84	110.5
1933	1,309,122.96	30,062,194	23,283	4.35	4.75	109.2
1934	1,319,922.69	33,312,314	23,882	3.96	4.66	117.7
1935	1,343,222.39	37,667,453	25,357	3.57	4.55	127.5
1936	1,385,784.39	45,447,669	28,198	3.05	4.31	141.4
1937	1,366,484.50	54,858,240	35,508	2.49	3.57	143.5

*It may be observed that the number of consumers reported here does not agree with those shown in other sections of the Annual Report of the Commission. This is due to the fact that the figures given here represent consumers actually billed, whereas elsewhere in the Report the tables show the number of contracts executed to the end of the fiscal year. In many cases service is not given until the following year.

Provincial Government Aids Rural Electrical Service.

Assistance respecting electrical service is given by the Province to farmers and rural residents in three ways, namely:

First—A “grant-in-aid” toward the initial capital cost of supplying electrical service, amounting to 50 per cent of the cost of line and secondary equipment necessary to deliver power from the supply point of the Commission’s stations or of a city, town, village, etc., to the customer’s property. This is the maximum amount provided for by *The Rural Hydro-Electric Distribution Act*.

Second—Authority was granted to the Commission by the Province in *The Rural Power District Service Charge Act*, 1930, to fix a maximum service charge for any class of service in a rural power district. Where as may be the case in newly-established rural power districts, such maximum service charge

is not sufficient to meet the necessary cost of service, as specified by the Commission, the deficit is chargeable to and payable out of the Consolidated Revenue Fund of the Province. Payments made out of the Consolidated Revenue Fund for this purpose, on account of any rural power district, are charged to that rural power district in a special account—known as the “Rural Power Service Suspense Account”—in the books of the Treasurer of Ontario, and any surplus thereafter arising from any maximum service charge in that rural power district is paid to the Treasurer of Ontario and placed to the credit of the rural power district in such suspense account until the deficit is wiped out. Where a temporary deficit arises in any rural power district owing to the application of the maximum service charge, such maximum service charge must remain in force and be charged in that rural power district until the deficit is extinguished. The application of this Act will in future be more extensively necessary, due to the reduction from the three farm- to two farm-per-mile basis.

Third—An Act—*The Rural Power District Loans Act*, 1930—to provide for granting aid towards the installation of electrical works in rural power districts was passed in 1930. The purpose of the Act is to provide, subject to regulations, advances toward the installation of electrical services in rural power districts. Aid may be granted for the wiring from the transmission or distribution lines of the Commission into and throughout dwellings, farms outhouses, and any other works which may from time to time be specified by the regulations. In addition to the wiring, loans may be obtained on transformers, motors, or other appliances, as may be necessary or expedient for any industrial, agricultural or domestic purpose which may be specified in the regulations.

Rural Loans

Under *The Rural Power District Loans Act*, 1930, authority was given to The Hydro-Electric Power Commission of Ontario, to finance the installation of wiring and the purchase of specified electrical equipment by rural farm consumers.

To October 31, 1938, 1,696 applications have been received and of these 1,229 loans have been completed, involving an outlay of \$249,412. As all applications for loans are governed by regulations made subject to the provisions of the Act it will be seen from the above that quite a number fail to meet the requirements of these regulations.

To October 31, 1938, 325 loans had been repaid in full either through the maturing of the loan or because of the improved financial position of the borrower.

During the fiscal year ending October 31, 1938, there were received 321 applications which with the 35 carried over from last year were disposed of as follows:—

Loans completed.....	240
Withdrawn.....	12
Did not meet requirements.....	41
Approved, then withdrawn.....	13
Not approved.....	9
Approved waiting final papers.....	27
In process.....	14

SUMMARY OF LOANS MADE TO OCTOBER 31, 1938

Fiscal year ending Oct. 31	Applications received	Loans consummated	Amount of Loans
1931.....	126	74	\$ 23,542
1932.....	226	187	40,160
1933.....	144	111	20,975
1934.....	107	81	14,855
1935.....	235	169	32,450
1936.....	307	212	40,550
1937.....	230	155	29,615
1938.....	321	240	47,265
Total.....	1,696	1,229	\$249,412

LOANS GRANTED TO CONSUMERS IN RURAL POWER DISTRICTS

System	Total to Oct. 31, 1937		Nov. 1, 1937, to Oct. 31, 1938		Total to Oct. 31, 1938	
	No.	Amount	No.	Amount	No.	Amount
Niagara.....	827	\$ 160,825	196	\$ 38,250	1,023	\$ 199,075
Georgian Bay.....	117	30,342	30	6,315	147	36,657
Eastern Ontario.....	39	9,585	14	2,700	53	12,285
Thunder Bay.....	1	335	.....	.....	1	335
Manitoulin R.P.D.....	5	1,060	.....	.....	5	1,060
All systems.....	989	202,147	240	47,265	1,229	249,412

The average loan is \$202.94.

DETAILS OF RURAL LOANS GRANTED TO OCTOBER 31, 1938

Items applied for (including installation) in loans which have been made	Totals for 989 loans made to October 31, 1937		Totals for 240 loans made during year to October 31, 1938		Totals for 1,229 loans made to October 31, 1938	
	Number affected	Cost to consumers	Number affected	Cost to consumers	Number affected	Cost to consumers
Service.....	341	\$ c. 18,714. 34	93	\$ c. 4,204. 02	434	\$ c. 22,918. 36
House wiring.....	340	29,882. 33	94	7,132. 18	434	37,014. 51
Building wiring.....	340	26,031. 14	72	5,014. 49	412	31,045. 63
Motors.....	48	4,961. 96	2	210. 00	50	5,171. 96
Grain grinders.....	565	109,580. 97	102	22,209. 00	667	131,789. 97
Pumping systems.....	77	10,711. 72	26	3,809. 33	103	14,521. 05
Milking machines.....	12	3,336. 00	11	3,057. 15	23	6,393. 15
Washing machines.....	34	3,587. 50	6	519. 45	40	4,106. 95
Milk coolers.....	36	7,328. 00	20	5,007. 78	56	12,335. 78
Ranges.....	1	165. 00	.....	.....	1	165. 00
Cream separators.....	.....	.....	1	80. 00	1	80. 00
Totals.....	.....	214,298. 96	.....	51,243. 40	.....	265,542. 36

Respecting the 1,229 loans made to October 31, 1938, the following table shows the number of loans made for each term of years.

One year term.....	21 loans	Six year term.....	10 loans
Two " "	45 "	Seven " "	79 "
Three " "	215 "	Eight " "	9 "
Four " "	51 "	Nine " "	0 "
Five " "	761 "	Ten " "	38 "

During the past three years there have been no loans made for periods longer than 5 years.

Provincial Assistance to Rural Consumers

The extent and effect of the Province's financial assistance with respect to the distribution of power in rural power districts should be clearly understood. The Government grant-in-aid relates solely to the initial capital investment for distribution facilities in rural power districts. Having made its grant-in-aid, the Government further participates in the operation of each district in that it guarantees a maximum service charge, otherwise its participation in the operation of the property ceases. Each rural power district pays the cost of operation, maintenance and administration of its lines. The Commission also set up, until October 31, 1935, reserves for renewals (depreciation), obsolescence and contingencies on the whole of the equipment and lines, as well as sinking fund on the investment made by the Commission on behalf of the townships served. Beginning November 1, 1935, however, no further provision will be made for contingencies as it is considered that the present accumulated contingency fund is sufficient to take care of this situation; similarly the renewals (depreciation) charges were reduced by one-eighth for the year 1936 and by one-half for the year 1937 and until further consideration is given to the problem.

RURAL LINE EXTENSIONS APPROVED BY THE COMMISSION DURING THE YEAR 1938

System	Miles of primary line	Net increase in number of consumers			Power supplied in October, 1938	Capital approved for extensions	
		Hamlet	Farm etc.	Total		Total	Provincial grant-in-aid
Niagara.....	1,268.92	1,838	5,686	7,524	h.p. 44,202	\$ 3,061,129.00	c. 1,530,564.50
Georgian Bay.....	544.68	1,345	1,493	2,838	4,987	1,152,241.00	568,982.50
Eastern Ontario.....	764.19	1,134	2,363	3,497	9,269	1,687,521.00	843,760.50
Thunder Bay.....	29.09	72	110	182	278	71,302.00	35,651.00
Manitoulin R.P.D.....	42.70	86	65	151	205	101,097.00	50,548.50
Northern Ontario Properties: Nipissing district.....	11.29	43	21	64	212	26,948.00	13,424.50
Totals.....	2,660.87	3,384	9,738	14,256	59,153	6,100,139.00	3,042,931.50

SUMMARY OF RURAL LINE EXTENSIONS

As Approved by the Commission from June 1, 1921 to October 31, 1938,
Constructed or Under Construction

System	Miles of primary line	Number of consumers			Capital approved for extensions	
		Hamlet	Farm, etc.	Total	Total	Provincial grant-in-aid
					\$ c.	\$ c.
Niagara.....	10,021.37	28,383	37,154	65,537	23,283,246.89	11,618,343.44
Georgian Bay.....	2,142.59	7,997	5,255	13,252	4,657,754.95	2,262,526.49
Eastern Ontario.....	3,372.49	10,005	9,559	19,564	7,642,732.31	3,821,366.15
Thunder Bay.....	126.24	274	340	614	256,241.00	128,120.50
Manitoulin R.P.D....	89.85	283	106	389	194,453.00	97,226.50
Northern Ontario Properties:						
Nipissing district...	31.84	488	77	565	101,669.00	50,834.50
Totals.....	*15,784.38	47,430	52,491	99,921	36,136,097.15	17,978,417.58

*Note—This total includes 748.62 miles of primary line under construction on October 31, 1938, and service to 2,512 new consumers was not completed until after the end of the fiscal year.

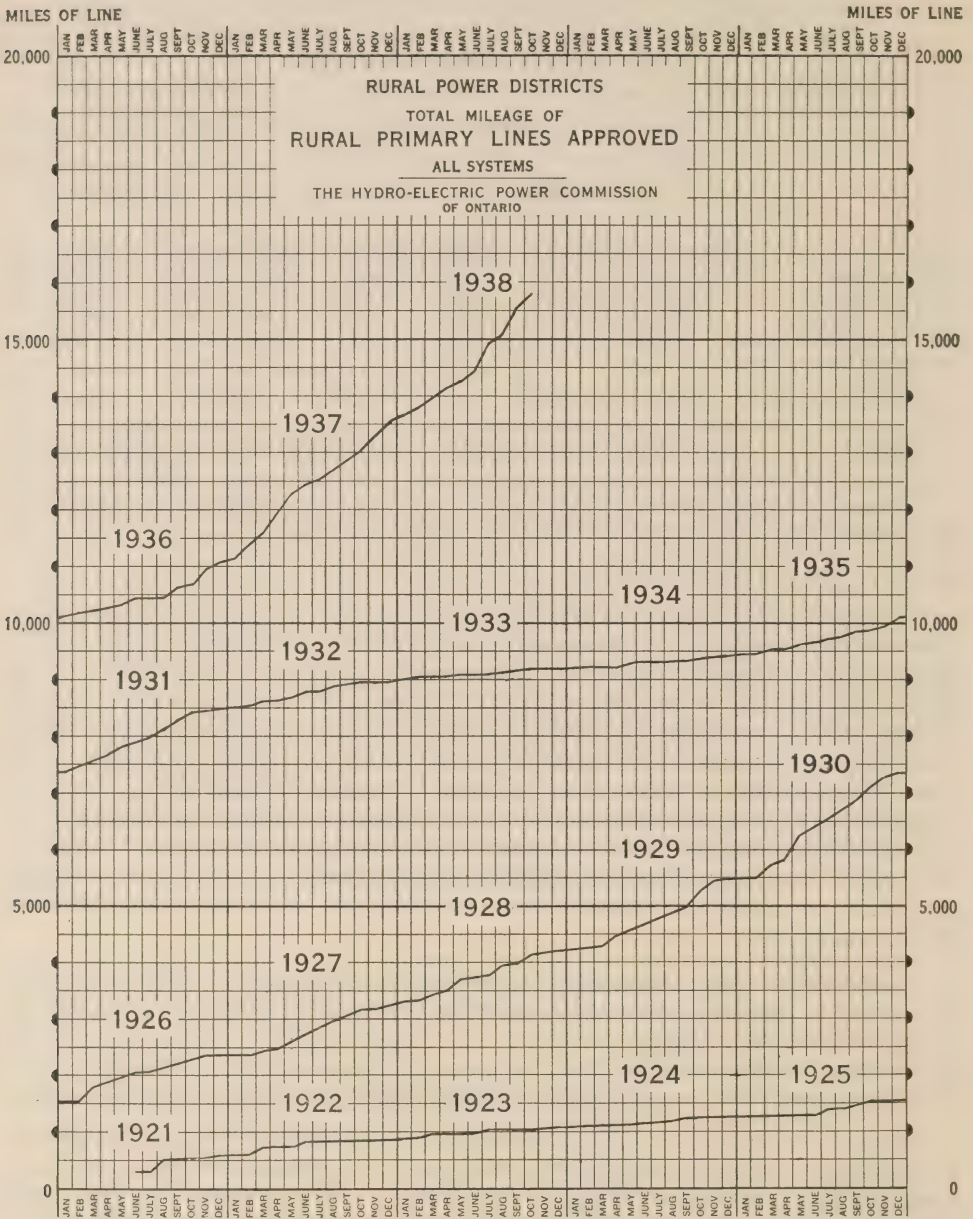
Rates for Rural Electrical Service

Rates to rural consumers are based upon service “at cost”—account being taken of the Provincial “grant-in-aid” for rural work and the operation of the provision for a maximum service charge—and as in some urban centres the rates are made up of two parts, a service charge and a consumption charge. In any rural power district the service charge to a consumer depends primarily upon the individual connected load or demand which determines his class rating (see “Classification of Services”) but this is modified in the earlier years of operation of a rural power district by the provision respecting maximum service charge; the consumption charge is based upon a first, second and third kilowatt-hour rate, the first and second rate being determined by the cost of power at the source of supply to the rural power district, and the third rate is the same for all consumers.

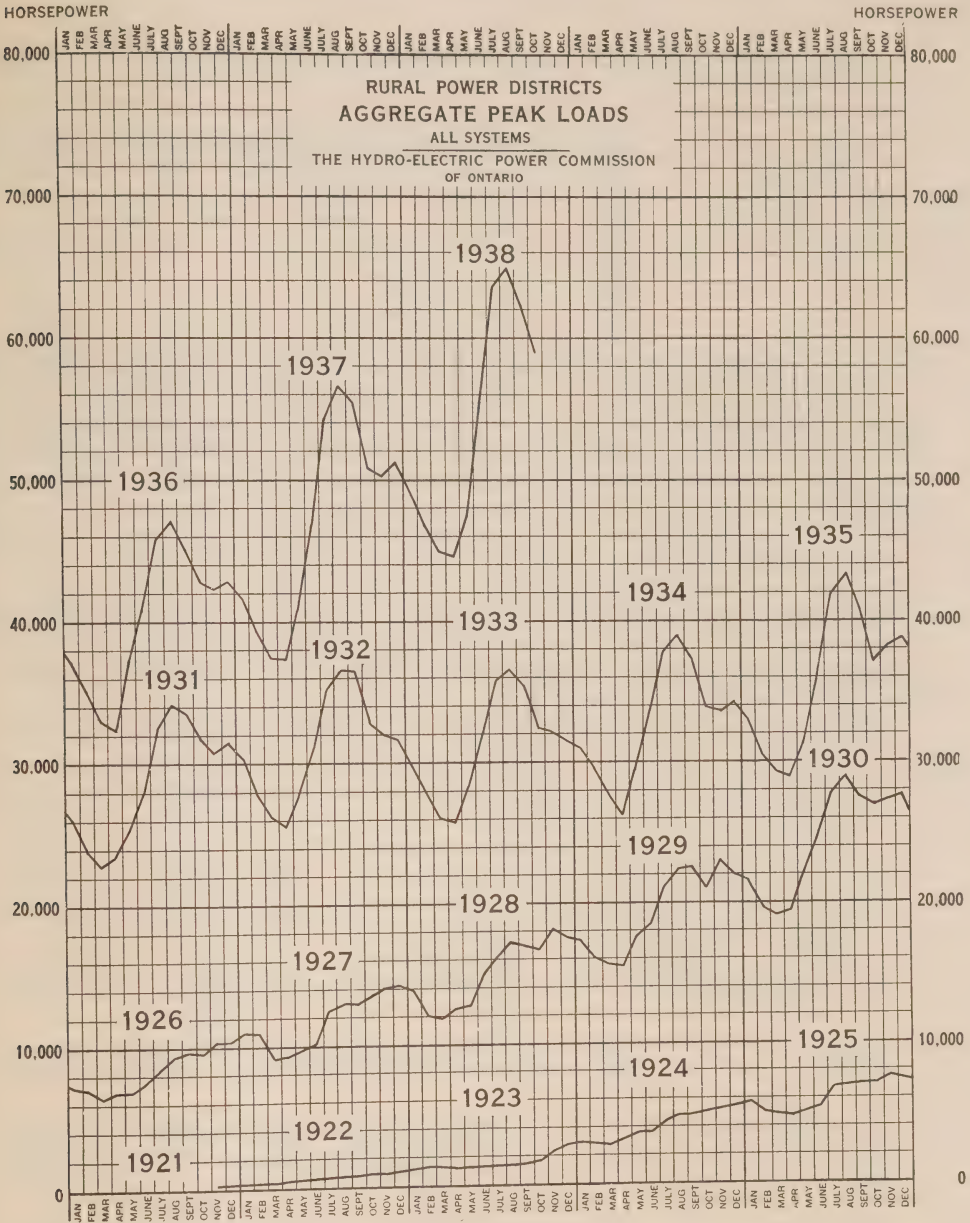
Each mile of line is assumed to represent a minimum of 10 units and to each class of service is assigned a value in such units. The table on page 72 gives the new unit rating applicable to each class of service. More than 90 per cent of the contracts entered into for farm service are either Class 2B or Class III. These, therefore, are the representative classes for individual farm service.

Less than one-half of the consumers in rural power districts are grouped in hamlets or small villages closely identified with rural activities, and these consumers are usually in Class 1B or Class 1C. It is pointed out that rural power districts do not include suburban districts or larger villages. These have their own electrical utilities.

The lowering of the maximum service charges has in the past resulted in more uniform and more nearly equal costs to the respective classes of consumers in practically all rural power districts served by the Commission. These maximum rural service charges, under prevailing conditions and especially under the 1938 reduction in the number of consumers required per mile, do not cover the costs incurred to serve rural consumers. It is expected, however, that a large number of consumers will be added to existing lines and



that the consumers will increase the use of power. This will enable the Commission, it is hoped, to more nearly meet all costs. In rural power districts where this condition cannot be obtained, deficits arising out of the application of the maximum service charge will be much greater than those where the increases have been obtained. These deficits in all cases, however, will be paid by the Province of Ontario as a loan until the rural power districts concerned operate with a surplus.



Contracts with Consumers

All agreements with consumers served by the Commission in rural power districts are for a term of five years, subject to certain limiting conditions such as govern in connection with loans under *The Rural Power District Loans Act*, guarantee contracts, etc.

At the end of this section a tabulation of the rural power districts shows the miles of line, the number of consumers and the rate schedules now in force for each district of the several systems.

RURAL POWER DISTRICTS—MILES OF LINE, NUMBER OF CONSUMERS AND RATES—OCTOBER 31, 1938

Rural rates																	
Class	1B	1C	2A	2B	3*	4	5	6A	6B	7A	7B	Gross consumption charges per kilowatt-hour					Prompt payment discount on gross bill
No. of kw-hrs. per month .	30	30	30	30	42	70	70	126	126	210	210						
Monthly consumption charged for at first energy rate																	
Monthly consumption charged for at second energy rate																	
Rural power district	No. of kw-hrs. where first energy rate is	less than 3 cts	120	270	120	270	258	430	430	774	774	1290	1290				
	3 cts.	105	240	105	240	228	380	380	684	684	1140	1140					
	3.1 to 4 cts.	75	180	75	180	168	280	280	504	504	840	840					
	4.1 to 5 cts.	60	150	60	150	138	230	230	414	414	690	690					
	more than 5 cts.	45	120	45	120	108	180	180	324	324	540	540					
Property number	Miles of line	No. of consumers	Maximum gross monthly service charge to Summer cottages. Where the rates are below these standards, they are indicated in each instance by†														
			\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	
Gross monthly service charge to regular consumers																	
NIAGARA SYSTEM																	
Acton.	N5 D1	14 70	46	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	cents	%
Ailsa Craig.	N4 D7	45 45	114	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	0.75
Alvinston.	N18 D9	33 95	78	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	0.75
Amherstburg.	N15 D3	97 14	811	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.5	0.75
Aylmer.	N11 D2	230 53	1282	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4.5	0.75
Ayr.	N12 D4	36 95	132	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	0.75
Baden.	N7 D1	128 81	624	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	0.75
Beamsville.	N44 D3	217 67	1901	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	0.75
Belle River.	N15 D2	57 00	534	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	0.75
Blenheim.	N14 D3	97 46	540	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	0.75
Bond Lake.	N3 D3	203 37	2,071	1.10	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	0.75
Bothwell.	N14 D10	94 53	328	†1.10	1.56	1.11	1.11	1.56	1.56	2.50	2.78	2.78	3.33	3.33	3.33	1.5	0.75
Brampton.	N13 D2	83 32	281	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	0.75
Brant.	N12 D1	186 71	996	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	0.75
Bruden.	N18 D8	86 74	254	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	0.75
Burford.	N12 D2	93 00	448	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	0.75
Caledonia.	N2 D5	167 56	889	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4.5	0.75
Chatham.	N14 D1	218 63	1,244	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	0.75
Chippawa.	N1 D7	33 16	242	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.5	0.75
Clinton.	N8 D11	99 53	538	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	2	0.75

Delaware.....	N4 D3	175.45	852	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Dorchester.....	N4 D1	142.04	773	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	6	2	0.75	10
Dresden.....	N14 D12	98.98	311	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Drumbo.....	N12 D5	88.53	413	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Dundas.....	N2 D1	160.60	1,029	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	3	1.25	0.75	10
Dunville.....	N1 D9	72.95	391	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	5	2	0.75	10
				\$1.00	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	3.5	2	0.75	10
				\$1.00	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33				
Dutton.....	N11 D3	95.05	307	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	6	2	0.75	10
Elmira.....	N7 D3	33.15	125	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Elora.....	N5 D4	83.68	383	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Essex.....	N15 D7	140.72	708	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4.5	2	0.75	10
Exeter.....	N4 D6	109.44	892	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	5	2	0.75	10
Forest.....	N18 D6	100.51	402	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	6	2	0.75	10
Galt.....	N6 D2	52.60	437	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	3	1.5	0.75	10
Georgetown.....	N5 D2	75.80	359	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Goderich.....	N8 D2	65.69	266	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	5	2	0.75	10
Grantham.....	N44 D1	64.80	923	1.00	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	3	1.5	0.75	10
				+1.00	1.50	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33				
Guelph.....	N5 D3	147.80	820	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	3	1.5	0.75	10
Haldimand.....	N2 D8	161.09	729	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4.5	2	0.75	10
Harriston.....	N8 D5	25.84	77	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	5	2	0.75	10
Harrow.....	N15 D4	81.44	833	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4.5	2	0.75	10
Ingersoll.....	N10 D3	220.11	810	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	5.5	2	0.75	10
Jordan.....	N44 D2	48.13	458	1.06	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	3	1.5	0.75	10
				+1.06	1.56	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33				
Keswick.....	N3 D5	77.49	1,366	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Kingsville.....	N15 D5	176.66	1,863	1.00	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	3	2	0.75	10
				+1.00	1.56	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33				
Listowel.....	N8 D8	96.15	430	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
London.....	N4 D2	220.43	2,717	0.90	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	3	1.5	0.75	10
				+0.90	1.56	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33				
Lucan.....	N4 D5	86.24	264	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	6	2	0.75	10
Lynden.....	N2 D2	81.23	342	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Markham.....	N3 D1	162.74	1,315	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	4	2	0.75	10
Merlin.....	N14 D15	127.03	514	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.33	5	2	0.75	10

*See footnote on page 89. †Summer cottage rates. §Lowbanks extension regular rates. §§Lowbanks extension summer cottage rates.

RURAL POWER DISTRICTS—MILES OF LINE, NUMBER OF CONSUMERS AND RATES—OCTOBER 31, 1938—Continued.

Rural power district	Rural rates													Gross consumption charges		Prompt payment discount			
	Class.....		1B	1C	2A	2B	3*	4	5	6A	6B	7A	7B						
	Property number	Miles of line	Gross monthly service charge to regular consumers																
			No. of consumers																
NIAGARA SYSTEM—Continued																			
			\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	\$	c.	cents	%	
Milton.....	N13 D3	97.95	471	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
Milverton.....	N8 D9	59.64	240	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
Mitchell.....	N8 D7	93.02	461	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4.5	2	0.75	10
Newmarket.....	N3 D4	93.34	582	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
Niagara.....	N1 D1	59.20	437	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.5	0.75	10
Norwich.....	N10 D1	157.53	778	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.5	2	0.75	10
Oil Springs.....	N18 D3	48.86	195	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Palmerston.....	N8 D6	60.41	201	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
Petrolia.....	N18 D5	35.13	153	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Preston.....	N6 D1	175.70	1,379	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.25	0.75	10
Ridgetown.....	N14 D2	126.28	858	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
St. Jacobs.....	N7 D2	92.77	479	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.5	0.75	10
St. Marys.....	N9 D1	177.64	686	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
St. Thomas.....	N11 D1	220.16	1,487	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.5	0.75	10
St. Thomas.....	N11 D1	220.16	1,487	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.5	0.75	10
Saltfleet.....	N17 D1	102.68	1,984	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.5	0.75	10
Sandwich.....	N15 D1	146.58	2,466	1.00	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.5	1.5	0.75	10
Sarnia.....	N18 D4	112.87	1,683	1.11	1.56	1.11	1.56	1.11	1.56	2.50	2.78	2.78	2.78	3.33	3.33	3.5	2	0.75	10
Scarboro.....	N3 D2	107.26	1,288	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
Seaforth.....	N8 D10	24.56	174	1.10	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
Simcoe.....	N12 D6	126.93	755	1.10	1.56	1.11	1.56	1.11	1.56	2.50	2.78	2.78	2.78	3.33	3.33	4	2	0.75	10
Simcoe.....	N12 D6	126.93	755	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
Stamford.....	N44 D4	9.89	280	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.5	0.75	10
Stratford.....	N8 D4	53.96	278	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.5	2	0.75	10
Strathroy.....	N4 D4	134.62	435	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Streetsville.....	N13 D1	125.94	620	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.5	2	0.75	10
Tavistock.....	N8 D1	129.20	490	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10

Thamesville.....	N14	D11	108.03	434	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Tilbury.....	N14	D14	137.04	576	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
Tilsonburg.....	N10	D4	183.61	996	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.5	2	0.75	10
Wallaceburg.....	N14	D13	177.19	974	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10
Walsingham.....	N12	D7	263.03	1,347	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Walton.....	N8	D3	86.23	410	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Watertown.....	N2	D3	84.69	1,094	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	2.5	1	0.75	10
Waterford.....	N12	D3	129.87	566	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
Watford.....	N18	D7	42.99	148	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Welland.....	N1	D5	315.45	3,370	1.00	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.5	0.75	10
					†1.00	1.56	1.11	1.56	1.56	1.56										
Woodbridge.....	N16	D1	251.16	1,395	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	2	0.75	10
Woodstock.....	N10	D2	180.38	905	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	2	0.75	10

Total, Niagara system.....10,021.37 65,537

*See footnote on page 89.

†Summer cottage rates.

‡See heading to first page of table.

GEORGIAN BAY SYSTEM

			\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	cents	cents	%	
Alliston.....	S32	D1	51.64	255	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Arthur.....	E13	D2	8.46	24	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Bala.....	GB13	D1	64.15	437	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5	2	0.75	10
Barrie.....	S4	D1	97.55	786	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5	2	0.75	10
Baysville.....	M10	D1	43.75	272	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Beaumaris.....	M7	D1	67.53	478	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5	2	0.75	10
Beaverton.....	W2	D1	53.84	523	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5	2	0.75	10
Beeton.....	S33	D1	1.80	5	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Bradford.....	S37	D1	50.53	164	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Bruce.....	E19	D1	150.37	655	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5	2	0.75	10
Bucksin.....	S24	D1	1.75	23	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Cannington.....	W3	D1	33.51	127	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Chatsworth.....	E3	D1	.....	19	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Cookstown.....	S35	D1	2.98	5	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Creemore.....	S10	D2	100.77	341	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5	2	0.75	10
Dundalk.....	E5	D1	28.59	81	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Elmvale.....	S7	D1	51.98	257	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5.5	2	0.75	10
Flesherton.....	E1	D1	20.50	108	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	0.75	10
Gravenhurst.....	G34	D1	14.17	62	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5	2	0.75	10
Hawkestone.....	S9	D1	73.53	405	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3	1.5	0.75	10

RURAL POWER DISTRICTS—MILES OF LINE, NUMBER OF CONSUMERS AND RATES—OCTOBER 31, 1938—Continued.

Rural power district	Rural rates																			Prompt payment discount
	Class.			Gross monthly service charge to regular consumers												Gross consumption charges				
	Property number	Miles of line	No. of consumers	1B	1C	2A	2B	3*	4	5	6A	6B	7A	7B	First energy rate†	Second rate‡	All additional rate†			
				\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.				cents	cents	
Holstein.....	E7 D1	2.90	16	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Huntsville.....	M2 D1	91.55	465	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10		
Innisfil.....	S31 D1	45.55	973	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Kirkfield.....	W6 D1	24.96	110	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Lucknow.....	F24 D1	9.18	39	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Mariposa.....	W9 D1	63.14	399	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Markdale.....	E1 D2	25.05	107	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Meaford.....	G14 D1	59.77	301	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Medonte.....	S18 D1	72.02	315	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10		
Midland.....	S1 D1	80.78	607	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10		
Minden.....	G37 D1	51.66	266	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10		
Neustadt.....	E8 D1	12.06	35	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10		
Nottawasaga.....	S5 D1	19.87	145	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10		
Orangeville.....	E12 D1	96.01	312	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Owen Sound.....	E2 D1	41.32	206	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10		
Port Perry.....	W12 D1	62.22	532	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Ripley.....	E24 D2	71.07	213	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Sauble.....	E46 D1	32.50	237	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Shelburne.....	E10 D1	25.24	82	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
South Falls.....	M1 D1	0.60	16	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10		
Sparrow Lake.....	W1 D1	53.38	513	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	4	2	0.75	10		
Tara.....	E15 D1	56.31	235	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Thornton.....	S36 D1	11.81	43	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Tottenham.....	S34 D1	11.46	33	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Utterson.....	M8 D1	51.90	268	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Uxbridge.....	W11 D1	74.83	277	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		
Wasaga Beach.....	S10 D1	25.78	1,093	1.00	1.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.5	1.5	.....	10
Wroxeter.....	E22 D1	52.27	387	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10		

*See footnote on page 89. †These rates apply to regular consumers and summer cottages.

Total, Georgian Bay system, 2,142.39 13,252

†See heading to first page of table.

EASTERN ONTARIO SYSTEM

Alexandria.....	L15	D1	52.85	240	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Arnprior.....	QM10	D1	10.97	85	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Belleville.....	C38	D1	149.01	1,010	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3.5	1.5	0.75	10
Bowmanville.....	C23	D1	58.58	275	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
Brighton.....	C6	D1	16.41	96	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Brockville.....	L3	D1	144.97	977	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Carleton Place.....	C11	D1	46.63	160	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Carmichael.....	H5	D1	34.57	118	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Chesterville.....	L5	D1	139.91	737	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Cobourg.....	C13	D1	161.03	793	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
Colborne.....	C7	D1	78.21	393	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
Cornwall.....	L1	D1	25.25	53	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Fenelon Falls.....	C30	D1	109.50	680	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Iroquois.....	L9	D1	106.79	533	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Kemptville.....	H9	D1	7.97	73	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Kingston.....	C44	D1	250.94	1,461	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
Lakefield.....	C18	D1	62.85	261	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Madoc.....	C33	D1	24.08	86	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
Marmora.....	C47	D1	4.28	32	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Martintown.....	L13	D1	62.28	302	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Maxville.....	L14	D2	159.48	815	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Millbrook.....	C25	D1	31.47	178	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Napanee.....	C43	D1	244.03	1,083	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10
Nepean.....	T1	D1	244.13	1,569	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.5	0.75	10
Newcastle.....	C22	D1	44.85	179	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Norwood.....	C31	D1	39.44	203	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Onemee.....	C26	D1	23.55	49	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Oshawa.....	C24	D1	187.23	2,187	1.00	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	3	1.75	0.75	10
Pembroke.....	QM30	D1	13.20	42	1.00	1.56	1.11	1.56	1.11	1.56	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Perth.....	H2	D1	71.63	314	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Peterborough.....	C20	D1	110.50	1,409	0.63	1.11	0.79	1.11	1.11	1.11	1.56	2.01	2.57	2.78	3.33	3.33	4	2	0.75	10
Prescott.....	L2	D1	69.71	327	1.11	1.11	0.79	1.21	1.56	1.56	1.56	2.01	2.57	2.78	3.33	3.33	6	2	0.75	10
Renfrew.....	QM16	D1	45.00	272	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Smiths Falls.....	H3	D1	96.30	619	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	6	2	0.75	10
Stirling.....	C35	D1	52.84	193	1.11	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	3.33	5	2	0.75	10

RURAL POWER DISTRICTS—MILES OF LINE, NUMBER OF CONSUMERS AND RATES—OCTOBER 31, 1938—Concluded.

Rural power district	Rural rates												Prompt payment discount			
	C'lass.....	Miles of line	No. of con- sumers	Gross monthly service charge to regular consumers								Gross consumption charges				
				1B	1C	2A	2B	3*	4	5	6A	6B		7A	7B	First energy rate†	Second Rate for all addi- tional
Sulphide.....	C34 D1	16.64	78	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	cents	cents	%
Trenton.....	C3 D1	86.79	394	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	10
Warkworth.....	C49 D1	11.81	51	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	5	2	10
Wellington.....	C45 D1	229.39	999	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	10
Williamsburg.....	L7 D1	47.42	238	1.11	1.11	1.11	1.11	1.11	1.56	2.50	2.78	2.78	3.33	6	2	10

Total, Eastern Ontario system 3,372.49 19,564

*See footnote on page 89. †Summer cottage rates. ‡See heading to first page of table.

THUNDER BAY SYSTEM

Fort William.....	P10 D1	85.01	373	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.56	\$ 2.50	\$ 2.78	\$ 2.78	\$ 3.33	\$ 3.33	cents 4	cents 2	% 10
Port Arthur.....	P2 D1	41.23	241	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.56	\$ 2.50	\$ 2.78	\$ 2.78	\$ 3.33	\$ 3.33	cents 4	cents 2	% 10

Total, Thunder Bay system.. 126.24 614

MANITOULIN RURAL POWER DISTRICT

Manitoulin.....	MR1 D1	89.85	389	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.11	\$ 1.56	\$ 2.50	\$ 2.78	\$ 2.78	\$ 3.33	\$ 3.33	cents 6	cents 2	% 10
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NORTHERN ONTARIO PROPERTIES—NIPISSING DISTRICT

North Bay.....	Z4 D1	26.74	542	\$ 0.87	\$ 1.11	\$ 1.01	\$ 1.11	\$ 1.11	\$ 1.56	\$ 2.17	\$ 2.68	\$ 2.78	\$ 3.33	\$ 3.33	cents 6	cents 2	% 10
Powassan.....	Z8 D1	5.10	23	\$ 0.87	\$ 1.38	\$ 1.01	\$ 1.38	\$ 1.44	\$ 1.56	\$ 2.17	\$ 2.68	\$ 2.78	\$ 3.33	\$ 3.33	cents 6	cents 2	% 10

Total, Nipissing district..... 31.84 565

Total, all systems: Miles of line, 15,784.38. §Number of consumers, 99,921. *See footnote on page 89. †See heading to first page of table. ‡Summer cottage rates. §This total includes 748.62 miles of primary line under construction on October 31, 1938 and service to 2,512 new consumers was not completed until after the end of the fiscal year.

CLASSIFICATION OF SERVICES FOR RURAL POWER DISTRICTS

When contracts between the consumer and the township have been executed, users of power in townships are supplied with electric service under general classes, according to the requirements and conditions of the individual consumer, as follows:

Class	Service	Class demand kilowatts	Phase	Volts	Fuse rating amperes (maximum)
1B	Hamlet Lighting.....	1.32	1	110	20
1C	“ “.....	2	1	220-110	35
2A	House Lighting.....	1.32	1	110	20
2B	Small Farm Service.....	2	1	220-110	35
3	Light Farm Service.....	3	1	220-110	35
4	Medium Farm Service.....	5	1	220-110	50
5	“ “ “.....	5	3	220-110	35
6A	Heavy Farm Service.....	9	1	220-110	100
6B	“ “ “.....	9	1 and 3	220-110	60
7A	Special Farm Service.....	15	1	220-110	According to load
7B	“ “ “.....	15	1 and 3	220-110	According to load

Class 1: Hamlet Service—Includes service to consumers (other than farm and power users) in hamlets, where four or more consumers are served from one transformer. Service is given under two sub-classes as follows:

Class 1-B: Service to residences or stores, including use of portable appliances, and permanently installed appliances not exceeding 1,320 watts.

Class 1-C: Service to residences or stores with electric range or ordinary permanently installed appliances greater than 1,320 watts. Where a combination of residence and store can be supplied from one service, the combination is billed as a single Class 1-C consumer. Special or unusual loads will be treated specially.

Class 2-A: House Lighting—Includes service to all consumers other than farm and power users that cannot be grouped as in Class 1.

Class 2-B: Farm Service, Small—Includes service for lighting of farm buildings, power for miscellaneous small equipment and power for single-phase motors not exceeding 2 horsepower and electric range if motors and range are not used simultaneously, on a farm of fifty acres or less.

Class 3: Farm Service, Light—Includes service for lighting of farm buildings, power for miscellaneous small equipment and power for single-phase motors not exceeding 3 horsepower and electric range if motors and range are not used simultaneously.

Class 4: Farm Service, Medium Single-Phase—Includes service for lighting of farm buildings, power for miscellaneous small equipment, and power for single-phase motors up to 5 horsepower demand and electric range if motors and range are not used simultaneously.

Class 5: Farm Service, Medium 3-Phase—Includes service for lighting of farm buildings, power for miscellaneous small equipment and power for 3-phase motors up to 5-horsepower demand and electric range if motors and range are not used simultaneously.

Class 6: Farm Service, Heavy—Includes service for lighting of farm buildings, power for miscellaneous small equipment and power for motors up to 5-horsepower demand and an electric range, or 10-horsepower demand without an electric range. Single- or three-phase service will be given at the discretion of The Hydro-Electric Power Commission of Ontario.

Class 7: Farm Service, Special—Includes service for lighting of farm buildings, power for miscellaneous small equipment, power for 3-phase motors from 10- to 20-horsepower demand and electric range. Single- or three-phase service will be given at the discretion of The Hydro-Electric Power Commission of Ontario.

Note: Classes 2B to 7B are designed primarily to cover the service requirements of farmers. Consumers other than farmers who require a more comprehensive service with greater demand than is provided for in classes 1B, 1C and 2A may obtain this service upon payment of the specified service charge listed in the table of rates.

Note: Class 2B is the service usually supplied to farms of fifty acres or less and Class 3 is the service usually supplied to larger farms. More than 90 per cent of new contracts for farm service are in one or other of these classes.

SECTION IV

HYDRAULIC ENGINEERING AND CONSTRUCTION

Co-operative Systems

The Niagara and Georgian Bay systems claimed special attention in connection with hydraulic engineering and construction during the year, the former on account of the destruction caused by ice at the Ontario Power plant and the menacing ice jam at Queenston, and the latter due to the construction of the Ragged Rapids plant on the Muskoka river. In the Georgian Bay system also, renewals and betterments were carried out at the main dam at Eugenia falls.

An investigation was made of flooding in the Thames valley, and of possible remedial works.

Northern Ontario Properties

In the Sudbury district the major item was the construction of a new concrete dam at the Coniston development. The remaining parts of the old dam at the McVittie development were removed and certain site improvements were carried out. Improvements were also made at the Crystal Falls plant on the Sturgeon river.

The Frederick House dam, built to store water for the benefit of the plants on the Abitibi river, was completed in the spring of 1938, in time to impound sufficient of the spring run-off to fill Frederick House and Night Hawk lakes.

The Kenogami dam below Long lake also was completed in the spring, and work progressed on the diversion channel and control dam south of the lake.

Further investigations of sources of power for mining districts in northern Ontario were carried out.

NIAGARA SYSTEM

During an exceptionally severe storm on January 24 and 25, 1938, with a strong southwest wind on lake Erie, which caused the level at Port Colborne to rise approximately three feet above the mean for the month, enormous quantities of ice were carried into the Niagara river, causing an ice jam in the neighbourhood of Queenston of a magnitude greater than any since 1909, and

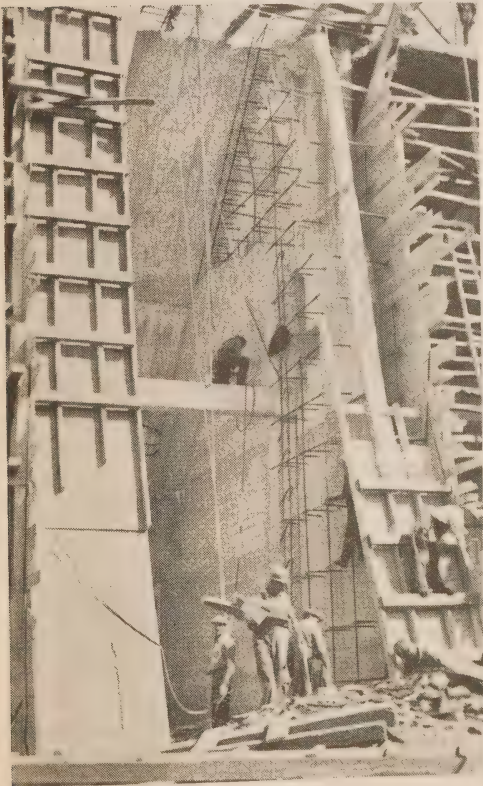
exceeding the 1909 jam in the Maid of the Mist pool. The water level at the Ontario Power plant rose at least 45 feet above normal level, flooded the plant, and filled the generating station with ice to the level of the crane rail for about 300 feet of its length at the south end. The plant was completely out of service for three months while damaged equipment was being repaired.

In the lower Niagara river the jam was so severe as to cause the water level at the Queenston plant to rise to elevation 275.3, or approximately 30 feet above the normal level. This plant has been subjected to high water on other occasions and was designed to be secure against water levels up to elevation 297, or more than 50 feet above normal river level.

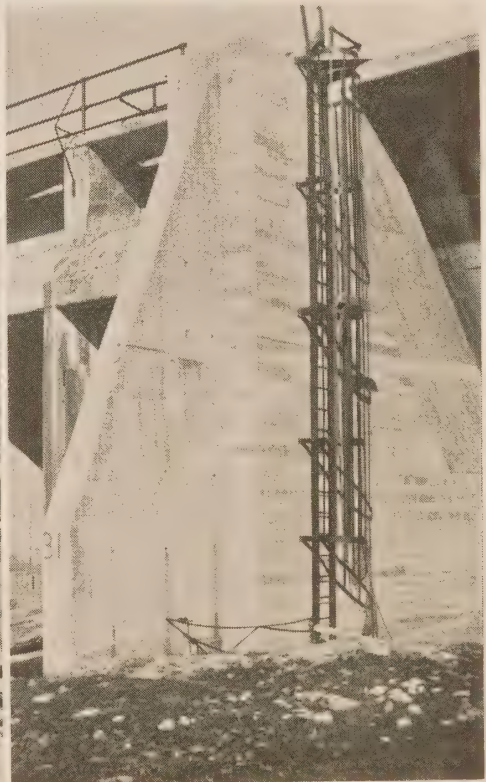
The level at Queenston fell gradually during the first half of February, reaching elevation 248.2 by the fifteenth, and the lower river was clear of ice by March.

GEORGIAN BAY SYSTEM

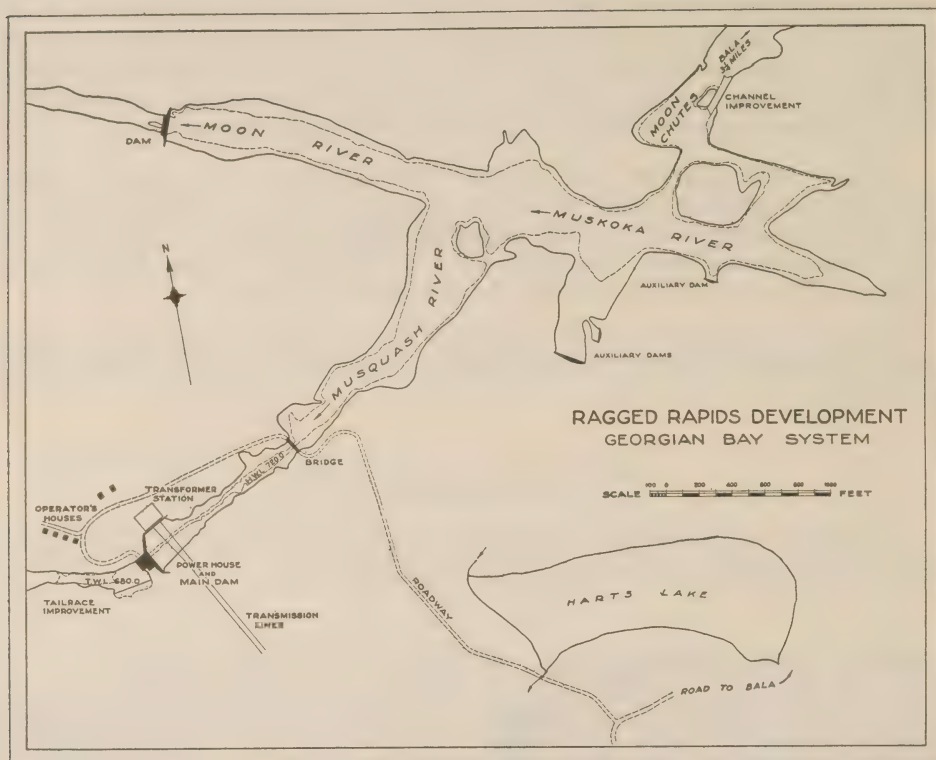
A detailed inspection was made of the concrete in the main dam at Eugenia Falls, and necessary repairs and renewals carried out.



EUGENIA FALLS DAM
Repairs to structure by reinforcing piers



EUGENIA FALLS DAM
Completed repair to one pier



Ragged Rapids Development

Reference was made in the last Annual Report to the beginning made in the spring of 1937 on the building of the Ragged Rapids development, about 5 miles below the outlet of lake Muskoka at Bala. The plant was completed in the fall of 1938, unit No. 1 first carrying commercial load on November 7, and unit No. 2 on October 18. A description of the main features of the plant follows:

The Georgian Bay system now derives its power supply from eleven hydro-electric plants, having a total capacity, including the new plant at Ragged rapids, of 35,800 horsepower. In addition, power is obtained from the Niagara system through a frequency changing unit at Hanover, having a capacity of 8,000 to 9,000 horsepower. The system peak load during 1938 was 35,500 horsepower.

The drainage area of the main branch of the Muskoka river at Moon chute, 5 miles below Bala, is 1,860 square miles. The water supply is derived from three principal sources: the south branch of the Muskoka river which drains the Lake of Bays area; the north branch which drains the area north and east of Huntsville; and the Muskoka lakes area which includes lakes Joseph, Rosseau and Muskoka. The total drainage then discharges at the outlet of lake Muskoka at Bala, where the Provincial Department of Public Works maintains a regulating dam. A short distance below Moon chute the river forks into two branches, the Moon river discharging to the northwest, and the Musquash west, into Georgian bay.



RAGGED RAPIDS GENERATING STATION—MUSQUASH RIVER
Sluice gate and downstream face of generating station

Although the three Muskoka lakes and Lake of Bays are large natural storage basins, the outflow at Bala is subject to considerable variation due to the necessity of maintaining navigation levels on these lakes. Upstream from Lake of Bays, however, the Commission controls 50,000 acre-feet of storage in Hollow lake, and water from this reservoir can be used through the three plants on the South Muskoka river as well as in the plants at and down-stream from Bala.

The total head between lake Muskoka and Georgian bay is approximately 160 feet, of which 20 feet occurs at Bala. Two small plants owned and operated by the Commission are situated here, using only a part of the available flow. An examination of the topography of the Moon and Musquash rivers showed that the latter affords more favourable sites for power concentrations than the former. After development, the Moon river will be available for the discharge of surplus flood flows. The complete scheme of development for the river will comprise four power plants below Bala, with capacities totalling 35,000 horsepower. This, with 5,000 horsepower at Bala, which is the full capacity of that site, will give a total of 40,000 horsepower on the river between lake Muskoka and Georgian bay.

The Ragged Rapids development comprises a combined dam and power house at the foot of Ragged rapids on the Musquash river, where formerly a 30-foot drop occurred, and a diversion dam on the Moon river, a short distance below the forks. These structures flood out Moon chute, where a 10-foot fall existed. Three small dams were also required on the south bank near the forks to close off low areas. A 40-foot wide channel was excavated at upper Moon chute to reduce hydraulic losses in supplying water to the power house and to prevent natural levels being exceeded in the river below Bala during flood flows. A short tailrace channel carries the power house discharge to the pool below Ragged rapids. A roadway, about one mile in length, was constructed from the existing road on the south side of the river to the power house site. A 60-foot plate girder span was required to carry the roadway across the Musquash river at the head of Ragged rapids.



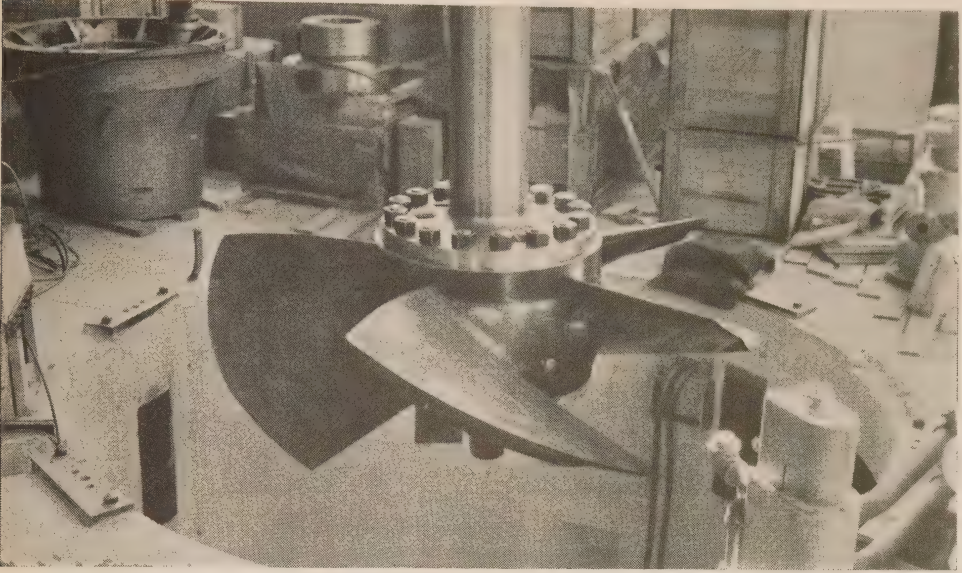
RAGGED RAPIDS POWER DEVELOPMENT—MUSQUASH RIVER
Forebay and headworks

The Moon river dam is a concrete structure, having a total length of 251 feet and a maximum height from foundation to deck of 26 feet. The central portion, 148 feet in length, contains eight sluices, each having a clear width of 14 feet, closed by stop-logs, for the operation of which a power-driven spud winch is provided. Bulkhead walls at either end of the sluiceway section have a combined length of 103 feet, the top width being 3 feet and the back batter $7\frac{1}{2}:12$. To assure free passage of flood waters, sufficient material was excavated under and opposite the sluiceway section to provide the same cross-sectional area as the river cross-section at the site before the dam was built.

Adjoining the power house is a sluiceway opening, 20 feet wide, with sill 15 feet below normal water level, controlled by a motor-operated steel gate, which has been housed and electrically heated for winter operation. A log-slide intake is also provided. Bulkhead wing walls, with 3-foot top width and 8:12 back batter, complete the main dam.

The power house substructure is of the standard reinforced concrete type with two intake openings for each unit containing steel racks and headgates. Spiral scroll cases and elbow draft tubes convey the water to and from the turbines. Air ducts are provided below the power house floor level to supply cooling air to the generators. The overall length from the face of the intake to the end of the draft tubes is 90 feet, and the width 73 feet. Centre lines of units are 35 feet apart.

Because of the large variation in river flow, automatically adjustable blade runners were installed. The turbines supplied are rated at 5,200 horsepower under 38 feet of head and operate at 200 revolutions per minute. The 5-blade, fully-machined Kaplan runners are expected to give high efficiencies over a wide range in load and discharge. The servomotor controlling the adjustable blades of the turbine runner is built into the turbine shaft. Oil-pressure governors are used to control the units with pressure and sump tanks interconnected.



RAGGED RAPIDS GENERATING STATION—MUSQUASH RIVER
Turbine runner with moveable blades. Hub contains the actuating mechanism

The power house superstructure is of structural steel, brick and tile construction. The roof area is 73 feet by 65 feet. There are three galleries on the up-stream side of the generator room. On the lower gallery are situated the control room, water pumps and station service transformers. On the second gallery are the battery room, storage room for spare generator coils and parts, work shop, battery charging motor-generator set, and domestic water chlorinator. The top gallery contains the 6,600-volt metal clad switchgear and the headgate hoists. A 25-ton motor-operated crane is provided in the generator room.

The two vertical generators are each rated at 4,500 kv-a, 85-per-cent powerfactor, 6,600 volts, 200 revolutions per minute, 60 cycles, and have 70-kw, 125-volt main exciters and 4-kw, 125-volt pilot exciters direct connected thereto. Mounted above the pilot exciter is the "oil head" for the servomotor, built into the turbine shaft at the coupling, which operates the adjustable blades of the turbine runner.

Construction of the development was commenced in May, 1937. It was evident that water transportation from Bala to the site would be very desirable. Accordingly, two temporary timber dams were built to drown out Moon chute. The first of these, having five sluiceways, was on the Moon river above the site of the Moon river dam, and served as an unwatering dam. The second was on the Musquash river at the head of Ragged rapids. At the same time the excavation at upper Moon chute was proceeded with to provide navigable velocities there and to regain at the power house the fall formerly occurring at the chute. A siding was constructed at Bala, with a derrick and special unloading facilities for handling sand, stone and cement direct from the cars to scows. By the middle of August, 1937, these facilities were complete, and the delivery of concrete aggregate began.



RAGGED RAPIDS DEVELOPMENT—MOON RIVER DAM

From upstream side of dam with river in flood. More than 11,000 cubic feet of water per second passing through the dam

Power house excavation was carried out in the dry, as the river flow was confined to the Moon river. The main dam and the power house substructure were completed early in April, and the sluice gate was opened to pass water for log-driving on the lower reaches of the Musquash river. Work on the Moon river dam proceeded progressively across the river. An exceptionally high fall flow in the river necessitated suspension of work on this dam during November and December, but it was completed in March before the spring freshet.

At the power house and the Moon river dam, concrete was placed with a "pumperete" machine, which takes the concrete from the mixer and delivers it through a steel pipe to the forms.

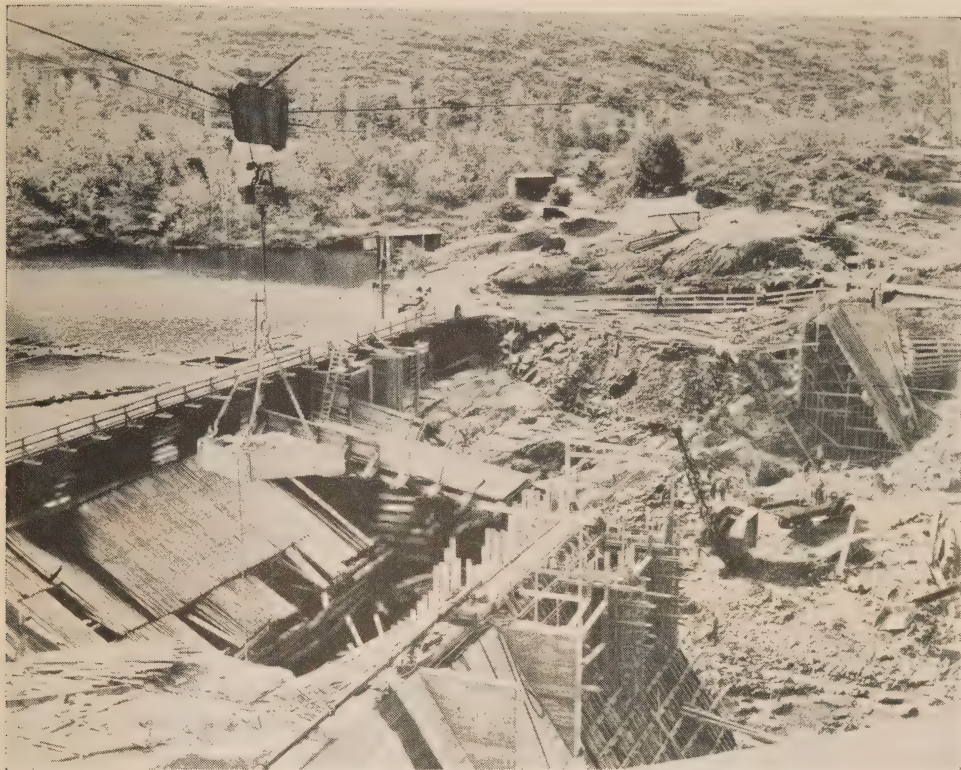
The principal quantities involved in the construction of the development were:

Cofferdams.....	4,800 cubic yards
Rock excavation.....	13,500 cubic yards
Concrete.....	9,900 cubic yards
Transportation.....	26,500 tons

The Ragged Rapids plant is the first the Commission has constructed in which Kaplan runners are installed, and its operation will therefore be watched with special interest.

With the system load at 35,000 horsepower, this plant will operate at capacity from the time of its completion, the Hanover frequency changer set being available as a standby and to supply energy during times of low-water supply.

The plant was designed and constructed by the Commission's staff. Turbines and governors were supplied by the S. Morgan Smith-Inglis company; generators by the Canadian Westinghouse company; low-voltage switching, switchboard and accessories by the Canadian General Electric company; and the main transformers by the Hackbridge Transformer Company of Canada.



CONISTON DAM—WANAPITEI RIVER
Showing old dam and construction of new concrete dam downstream

NORTHERN ONTARIO PROPERTIES

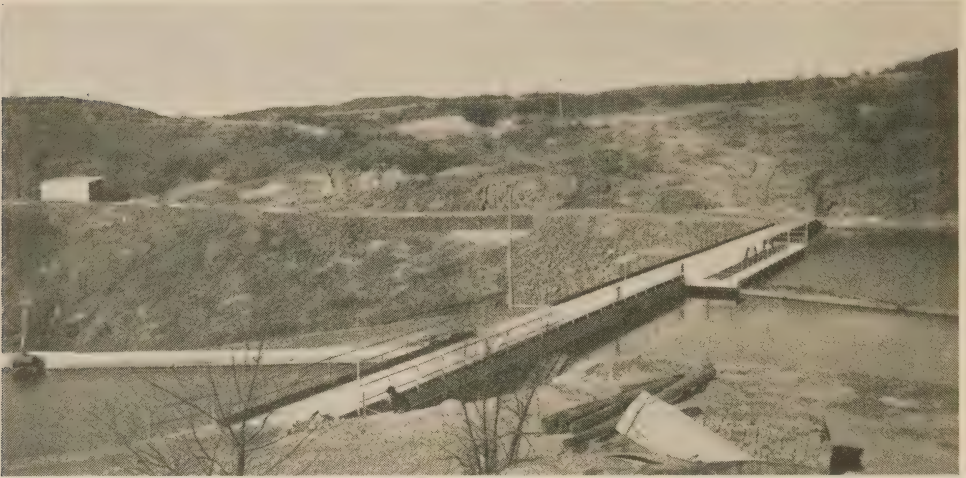
Sudbury District

The rock-filled timber crib at the Coniston plant on the Wanapitei river was replaced by a concrete structure erected 95 feet downstream. Work on the dam was started in June 1938 and completed in October of the same year, the old structure being used as a cofferdam.

The dam consists of four sections: on the north bank is a simple bulkhead; next is the spillway section containing five 16-foot log-controlled sluices; the third is a bulkhead section containing a fishway and log sluice; and connected to the south end of the third section is the new headworks of the power house canal. The dam was designed to carry a 12-foot road over its entire length to give access to the power house and the operators' colony on the south bank of the river.

Rock taken from the dam site was used to widen and grade the existing road on both sides of the dam. Other rock taken from the channel below the dam was used to heighten the tailrace crib at the power house.

The new dam has a total length of 385 feet, a maximum height of 45 feet, and contains nearly 6,000 cubic yards of concrete.



CONISTON DAM —FROM UPSTREAM SIDE

New dam carries a twelve foot roadway across the river. Canal leading to generating station in left foreground

Work at the McVittie power plant on the Wanapitei river, commenced last year, was continued. All the remaining parts of the old dam were removed; protecting booms were placed above the new dam; improvements were made in the road leading to the plant; and minor repairs were carried out at the side dam.

Rehabilitation and betterments proceeded on the Crystal Falls plant on the Sturgeon river, acquired by the Province in August, 1937. All metal work about the dam and power house was cleaned and repainted, thrust and guide bearings were repaired or renewed, covers were made for all openings in the deck of the dam and headworks, the steam heating plant used to facilitate headworks operation was rebuilt, and one of the Taintor gates was housed and heated.

Abitibi District

The Frederick House dam, built to store water in Night Hawk and Frederick House lakes for the benefit of the Abitibi Canyon plant and to maintain navigable depths on Night Hawk lake, was completed in the spring of 1938. The dam is situated on the Frederick House river, a tributary of the Abitibi, at a site about 14 miles below Connaught. Construction was started in April 1937 and completed in May 1938, in time to impound the spring run-off.

Access to the dam site was obtained by constructing a road, $6\frac{1}{2}$ miles in length, from the end of the colonization road west of Nellie lake. Sand for concrete was obtained three miles westerly from the project, while rock at the dam site was crushed to provide the coarse aggregate. Unwatering was accomplished by means of two rock-filled timber crib cofferdams. A wooden flume carried the natural flow of the river past the dam site during construction.



FREDERICK HOUSE DAM AND TRAINING CRIB

The crib prevents discharge from the dam impinging on the unstable left bank (right-hand side in view). There is solid rock along the right bank



TRANSPORTATION IN NORTHERN ONTARIO

Material for construction of Frederick House Dam being transported by tractor and sleighs

The dam consists of four sections. Starting at the right bank is a bulkhead section, followed by nine 16-foot sluices controlled by stop-logs. Adjoining this is another bulkhead section, and finally the fourth section, which extends into the clay bank on the left or south side, consists of six cells formed by driving interlocked steel sheet piling to bed rock. The bank around the cells was heavily rip-rapped, and rock-filled toe cribs were placed on both the upstream

and downstream sides. Further protection was given to the south bank by the erection of a training crib, which extends downstream from pier No. 7. This crib diverts most of the flow along the north side of the river channel, where exposed rock gives security from erosion.

The dam has an overall length of 558 feet, a maximum height of 74 feet, and contains more than 17,000 cubic yards of concrete. It is capable of storing 300,000 acre-feet of water and will increase the dependable capacity of the Abitibi Canyon plant by about 40,000 horsepower.

WATER DIVERSIONS

The Long Lac diversion project, which approached completion during the past year, contemplates the diversion southerly to lake Superior of a portion of the flow of the Kenogami river, a tributary to the Albany. The immediate purpose in view is the provision of facilities for the economical transportation to lake Superior of pulp-wood cut in the Kenogami watershed.

The works comprise two concrete dams and a channel $5\frac{1}{2}$ miles long. The north, or control, dam is situated on the Kenogami river, 15 miles below the outlet of Long lake; while the south, or regulating, dam is 5 miles below the upper end of Long lake and connected to it by a channel built across the divide and through a chain of small creeks and lakes.

These two dams, about 82 miles apart, control a drainage area of 1,530 square miles and a storage area of 62.3 square miles, and are capable of diverting an annual average flow of 1,100 cubic feet per second southerly to lake Superior.

Under an agreement with the Provincial government, work was commenced in the summer of 1937, the construction of the channel and the control dam at the south end being let by contract, while the Commission's own organization started work on the Kenogami dam to the north of the lake.

Transportation of equipment to the Kenogami dam site was accomplished by scows built at the railroad; a quarter of a mile of railroad was built across the portage at rapids about $6\frac{1}{2}$ miles downstream from Longlac.

Unwatering of the Kenogami dam site was completed in January, 1938. A portable sawmill, which supplied all necessary timber and lumber, was erected at the dam site. Gravel was obtained from a pit some 6 miles from the dam site. Concreting commenced at the end of January and was completed in May, most of the concrete being poured in sub-zero temperatures.

The dam, which is of the gravity sluiceway type, is 296 feet long and 68 feet high in the centre. It consists of a bulkhead section at each end and a centre section of six 16-foot sluiceways controlled by stop-logs. When in operation the sills will be 22 feet below high water level.

For the construction of the diversion channel and regulating dam, all equipment, including drag-line excavators weighing up to 140 tons, was transported from the railway at Longlac 58 miles up Long lake to the project. Thence, to gain access to all parts of the work, a truck road, 6 miles long, was built.



LONG LAC CONTROL DAM

Showing emergency sluice and log slide. These structures are at the south end of the diversion channel and sixty-seven miles south of Long Lac



KENOGAMI DAM

This dam is situated fifteen miles below the outlet of Long Lake and controls its level

The channel section, designed for a maximum discharge of 2,000 cubic feet per second, was given a depth of 14 feet and width of 100 feet at water line. The cross-section is trapezoidal in some parts and saucer shaped elsewhere, and the sides were generally given a 2:1 slope.

The control works, situated at the south end of the channel, consist of three concrete structures. The centre one contains a single log-controlled sluice and a log sluice with a wooden log chute. On the west side is a simple bulkhead section, while the structure on the other side has two log-controlled sluices. At the end of the fiscal year the control dam was completed and a small amount of work only remained to be done on the channel. The channel is expected to be available for the transportation of pulpwood southerly to lake Superior during the summer of 1939.

HYDRAULIC INVESTIGATIONS

Preliminary plans and estimates were made of the cost of a development at Fourteenth falls on the Sturgeon river, a tributary of the English river, to supply power to the town of Sioux Lookout. This work was a continuation of that referred to on the same subject in the last Annual Report.

At the request of the Provincial government, a study was made of flooding in the valley of the Thames river, and preliminary plans and estimates of the cost of remedial and protective works were submitted.

The routine work of the Hydraulic department includes collection of hydrometric data, supervision of operation of storage basins, engineering work in connection with operation and maintenance of the various systems, and sundry items in connection with lands, contracts and agreements.

SECTION V

ELECTRICAL ENGINEERING AND CONSTRUCTION

(STATION SECTION)

CONSTRUCTION work carried out during the past year provided for the supply of additional power from eastern sources. It also included the erection of a large number of small distributing stations and additions to many of the existing stations to provide capacity for the supply of power to the smaller centres. Many new customers were added in the mining districts.

Co-operative Systems

In the Niagara system two 75,000-kv-a banks of transformers are being installed at Leaside transformer station which will increase the nominal capacity of the station to 420,000 kv-a. A double circuit 110,000-volt line was built between Leaside and Toronto Strachan transformer stations to give an additional tie from the eastern power sources into the Niagara system. While rehabilitating the Ontario Power plant following the damage by ice, many changes were incorporated to facilitate operation. Eight new distributing stations were installed throughout the system and the capacity of seventeen others was increased.

In the Georgian Bay system the new 9,000-kv-a development at Ragged Rapids was completed and one generating unit placed in service. A 3,000-kv-a auto-transformer with automatic on-load tap changing equipment was installed to supply power at regulated voltage to Wasdell district. Additional transformer capacity was installed at eleven of the existing distributing stations.

In the Eastern Ontario system four new distributing stations were installed and the capacity of a like number was increased.

In the Thunder Bay system the 9,000-kv-a Long Lac transformer station was completed for the supply of power to the mining companies in that area. Two new companies were added during the year. A number of houses and colony buildings are being erected at Cameron Falls to provide accommodation for the operators and their families.

A total of over 87 miles of transmission circuits were constructed during the year, 31 miles of which will operate at 132,000 volts. More than 2,400 miles of lines were also built to supply rural customers.

Northern Ontario Properties

The original 28,500-kv-a bank of transformers at Kirkland Lake transformer station is now overloaded and a duplicate bank is being installed, also an additional 15,000-kv-a voltage regulator. A 132,000-volt, 1,000-kv-a transformer station was installed at Bourkes in the township of Benoit. One new distributing station was installed and another was enlarged. Metering equipment was installed for the supply of power to ten new mining companies and the capacity of four existing metering equipments was increased. Nearly 60 miles of transmission circuits were constructed.

Extensive improvements are being carried out and additional houses provided for the accommodation of the operating staff at the isolated stations in the northern districts. Fourteen houses at Abitibi Canyon and seven at Ear Falls are practically completed and many occupied. Schoolhouses, recreation rooms, stores, garages, hospital and other buildings are being included where considered advisable, also water supply, electric service, sewage disposal and fire protection. Roads are being graded and some landscaping done. Houses are also being provided at locations along the power line right-of-way for use by patrolmen.

NIAGARA SYSTEM

Generator and Step-up Transformer Stations on the Niagara River

At Queenston generating station some of the high-voltage oil circuit-breakers are being fitted with improved contacts, additional high-speed relays installed and external tap-changers provided in three of the transformer banks to increase the flexibility of operation and provide better control of the system voltage. Cable connections between a number of the transformers were installed for emergency service in case of flood conditions.

As a result of a severe ice jam in the Niagara river late in January, the Ontario Power plant was completely flooded.* This necessitated the rehabilitation of all the apparatus and the replacement of most of the control and metering equipment. During this period changes were made in the 12,000-volt cable connections and in the control of the generator-excitation system and relay-protection of the generators.

A bank of three 16,000-kv-a transformers originally purchased for Abitibi Canyon generating station was installed temporarily outside Toronto Power transformer station for emergency service. Three duplicate units which had been retained near this station for possible emergency were released and shipped to their original destination.

At Niagara transformer station additional high-speed relays were installed on two 110,000-volt circuits, a set of current-limiting reactors has been re-located and a bank of three 2,400-kv-a transformers, which was released from Thorold transformer station, has been installed to augment the capacity of the 46,000-volt station.

*See "The Bulletin", June, 1938.



ONTARIO POWER PLANT—NIAGARA RIVER

Ice piled up in river almost to the roof of the generating station—during ice jam, January, 1938

Transformer and Distributing Stations

Niagara District—A combined distribution and municipal station was installed at Welland and placed in service on September 27, 1938. The installation consists of one 3,000-kv-a, three-phase, 46,000/4,000-volt transformer, switching and metering equipment for the distributing station, and a duplicate transformer with the necessary switching equipment for the municipal station.

The 300-kv-a transformers placed in temporary service at Jordan and St. Davids distributing station last year have been permanently installed.

At Smithville distributing station the three original 50-kv-a transformers were replaced with three 100-kv-a units obtained from system reserve.

A distributing station was erected at Beamsville, using a bank of three new 250-kv-a transformers, to replace the original station. The latter was dismantled and the 300-kv-a, three-phase transformer transferred to system reserve.

Hamilton and Dundas District—The installation of a second bank of transformers and switching equipment at Hamilton-Stirton transformer station, reported last year is almost completed and will be in service before the end of the year.

The work at Hamilton Beach transformer station reported under way in the 1937 Annual Report was completed this year.

At Dundas transformer station two 4,000-kv-a, 13,200/26,400-volt auto-transformers are being installed outdoors to provide for the supply of 26,400-volt power over the existing circuit to Caledonia and Hagersville. At present this circuit is operating at 13,200 volts. The transformers have been purchased and the installation should be completed by February 1939.

A bank of three 75-kv-a transformers was installed at Vinemount distributing station to supply 8,000-volt power to Caledonia rural power district.

The necessary changes were made at Caledonia distributing station to enable power to be supplied to the village of Caledonia at 4,000 volts instead of 2,300 volts.

Toronto and York District—The capacity of Toronto-Leaside transformer station is being increased to a rated capacity of 420,000 kv-a. Six new 25,000-kv-a, single-phase, water-cooled, 230,000/138,000-voltage class transformers were purchased and the first bank installed on September 10, 1938. The second bank will be completed and in service in November. The transformers will operate in parallel with the existing transformer banks at the station, for the supply of additional power to the Niagara system. Each bank has a 13,200-volt tertiary winding of 30,000-kv-a rated capacity and may be used to supply power for the operation of the synchronous-condensers at the station. Some of the existing transformer banks were relocated to conform to the revised arrangement of the station. Improvements were made in a number of the existing 220,000- and 110,000-volt oil circuit-breakers, and five new circuit-breakers of the latter voltage class and other necessary switching equipment were purchased for the control of the additional transformer banks and two 110,000-volt circuits down the Don valley and along the water front to Toronto Strachan transformer station. Two sets of 13,200-volt metal-clad equipments were purchased and installed.

During the period of ice trouble in the Niagara river and the flooding of the Ontario Power plant in January 1938, an available bank of three 29,250-kv-a transformers was loaned by Beauharnois Light, Heat and Power Company and installed temporarily at Toronto-Leaside transformer station to provide emergency additional transformer capacity. With the installation of the permanent transformer capacity the temporary bank is now being removed and returned to the power company.

At Toronto-Strachan transformer station three oil circuit-breakers, fifteen disconnecting-switches and relay equipment were purchased and installed and a number of the existing oil circuit-breakers altered to re-arrange the necessary 110,000-volt circuits at the station and terminate a double-circuit line from Toronto-Leaside transformer station.

At Toronto-Bridgman-Davenport transformer station the 90,000-volt indoor oil circuit-breakers which have been in disuse for some time were removed and the space made available for storage of spare equipment. Improvements were made to the overhead-crane. Additional metering equipment was installed to measure the 13,200-volt power supplied to Forest Hill Village municipal station. Metering equipment was also installed in the Toronto Hydro-Electric System's High Level station to measure the 4,000-volt power supply to Forest Hill Village.

At Toronto-Wiltshire transformer station a new 110,000-volt lightning-arrester was installed.

The installation of a bank of three 5,000-kv-a transformers at York transformer station, reported in the 1937 Annual Report, was completed and the equipment placed in service on April 22, 1938.

Additional metering equipment was installed at Newmarket and Port Credit distributing stations.

At Mount Joy distributing station the 26,400-volt disconnecting switches and fuse-units were replaced with drop-out fuses. Recloser drop-out fuses were installed on the Markham and rural 4,000-volt feeders.

A distributing station was erected at Brampton using a bank of three 150-kv-a transformers released from Waterford distributing station. The station was placed in service on September 16, 1938.

Equipment was installed at Clarkson distributing station to provide a 4,000-volt feeder to Oakville (Canada Dehydrated Alfalfa) distributing station. The latter station was installed and placed in service on May 16, 1938. A bank of three 50-kv-a transformers was purchased for the installation.

Metering equipment was installed at the plant of National Steel Car Corporation Limited in Malton to measure the power supplied to that customer.

A distributing station was erected near Green River to supply power to Markham rural power district. A 300-kv-a three-phase transformer released from Ringwood distributing station was installed and placed in service on May 14, 1938.

The 300-kv-a transformer at Ringwood distributing station was replaced by a bank of three new 150-kv-a transformers which was placed in service on April 10, 1938.

The installation of a municipal station at Forest Hill Village, reported in the 1937 Annual Report was completed and the station was placed in service on December 17, 1937.

At Kleinburg distributing station an automatic booster-regulator was installed in the 4,000-volt circuit.

London District—At London transformer station, the installation of the third bank of three 5,000-kv-a transformers referred to in last year's report was completed on June 15, 1938. A 110,000-volt oil circuit-breaker was obtained from Cyanamid transformer station and installed in the line to St. Thomas and the 13,200-volt oil circuit-breakers were reinforced to increase their rupturing capacity. Two new water-pumps with the necessary oil and water-piping were installed. Two 5,000-kv-a, 13,200/26,400-volt auto-transformers are being installed outside the station and will be operated to step-up the voltage to 26,400 volts for the long circuits which terminate at Dashwood and Strathroy. At present these two circuits are operated at 13,200 volts. The transformers have been purchased and the installation should be completed before the spring of 1939.

A distributing station was erected at Ilderton to supply power to the surrounding rural district. A bank of three 150-kv-a transformers obtained from system reserve was installed and the station placed in service on March 13, 1938.

The capacity of Strathroy rural station was increased. The original bank of three 37.5-kv-a transformers was replaced by a bank of three 75-kv-a units which were placed in service on July 10, 1938.

Metering equipment was installed on the 4,000-volt rural feeder from Lucan distributing station to measure the power supplied to the village of Granton.

Guelph District—At Georgetown distributing station a bank of three new 500-kv-a transformers was installed, replacing the original two 300-kv-a, three-phase transformers. The replaced units were transferred to Caledonia and Sheddon distributing stations.

Preston District—At Preston transformer station twelve 13,200-volt disconnecting-switches and ten current-transformers were replaced. The 110,000-volt circuits to the station were rearranged and disconnecting-switches installed in the high-voltage bus to sectionalize the transformer banks.

Metering equipment was installed near the town of Hespeler in the 4,000-volt feeder from Preston rural station to measure the power supplied to Gypsum Lime and Alabastine Company at Glen Christie and to a number of rural customers.

Kitchener District—At Kitchener transformer station improved re-laying equipment was installed on the 110,000-volt circuit to Preston transformer station.

The bank of three 150-kv-a transformers at Waterloo rural station was replaced by a bank of three 250-kv-a transformers and the new equipment was placed in service on July 31, 1938.

Stratford District—The capacity of Mitchell rural station was increased on July 12, 1938 with the installation of the second 150-kv-a, three-phase transformer which was obtained from system reserve.

At Dublin distributing station, Mitchell and Clinton rural stations and Moorefield metering station changes were made in the metering equipment.

Assistance was given Stratford Public Utilities Commission in rearranging some of the 26,400-volt and 4,000-volt circuits in the municipal station.

Woodstock District—North Ingersoll distributing station was installed to supply 8,000-volt power to the Ingersoll rural power district. A bank of three new 150-kv-a transformers was purchased and the station placed in service on January 5, 1938.

At Embro distributing station changes were made in the metering equipment and drop-out fuses were installed on the 13,200-volt circuit supplying the station.

St. Thomas District—At Shedden distributing station the transformer capacity was increased. A 300-kv-a, three-phase transformer released from Georgetown distributing station was installed, replacing a 150-kv-a, three-phase unit which was transferred to system reserve. The metering equipment was also changed and drop-out fuses installed in both the 13,200- and 4,000-volt circuits.

At Aylmer distributing station an additional bank of three 250-kv-a transformers was purchased and installed on June 26, 1938 for the supply of 8,000-volt power for the rural load. The 75-kv-a transformers, previously in service on this load, were released and transferred for use at Strathroy rural station.

Brant District—St. George distributing station located inside Brant transformer station was dismantled and the three 50-kv-a transformers transferred to system reserve. A bank of three 150-kv-a transformers was obtained from system reserve and installed outside the transformer station to supply power for this load.

At Waterford distributing station the bank of three 150-kv-a transformers was replaced by a bank of three new 250-kv-a transformers. The new bank was placed in service on May 25, 1938. Drop-out fuses were installed on the 26,400-volt circuit.

A distributing station was installed at Delhi on May 2, 1938, using a bank of three 250-kv-a transformers which had been temporarily installed at St. Williams distributing station.

The installation of the distributing station at Delhi relieved the load on St. Williams distributing station and the temporary increased transformer capacity reported last year was replaced by the original bank of three 150-kv-a transformers.

Mount Pleasant distributing station was installed on June 28, 1938 to supply 4,000-volt power to the south-west section of Brant rural power district using a bank of three new 150-kv-a transformers.

Assistance was given Simcoe Public Utilities Commission in the installation of additional transformer capacity at the municipal station. Two 500-kv-a transformers were purchased and installed with the spare transformer to form the second bank. The installation was completed and the bank placed in service on July 14, 1938.

Kent District—The bank of three 75-kv-a transformers at Thamesville distributing station was replaced by a bank of three 150-kv-a transformers obtained from system reserve.

At Tilbury distributing station a 24-volt storage-battery was installed and changes were made in the relaying and metering equipments.

An additional 4,000-volt feeder was installed at Dresden distributing station to supply power to the rural power district which was previously supplied from the Dresden municipal system. Drop-out fuses were installed in the 26,400-volt circuit.

Changes were made in the metering equipment at Bothwell distributing station.

Essex District—At Harrow distributing station the bank of three 250-kv-a transformers was replaced on June 5, 1938 with a bank of three 500-kv-a units. A 26,400-volt oil circuit-breaker and a 24-volt storage-battery were installed.

The metering equipment in Sandwich Windsor and Amherstburg rotary-converter station at East Windsor was dismantled.

The capacity of Amherstburg distributing station was increased on July 25, 1938. The 300-kv-a, three-phase transformer was replaced with a bank of three 500-kv-a transformers and the replaced unit was transferred for installation at Wellesley distributing station. Changes were also made in the metering equipment.

St. Clair District—Perch distributing station was replaced by a new station at the rear of Petrolia Waterworks plant. A bank of three new 150-kv-a transformers was installed and placed in service on October 8, 1938. The original station was dismantled and the bank of three 75-kv-a transformers transferred to system reserve. The new station supplies power to Petrolia Waterworks and to Sarnia and Forest rural power districts.

At Oil Springs distributing station the necessary equipment was installed for a three-phase feeder to replace the single-phase feeder supplying power for the rural load.

Changes were made in the Point Edward metering equipment in Sarnia municipal station No. 1.

GEORGIAN BAY SYSTEM

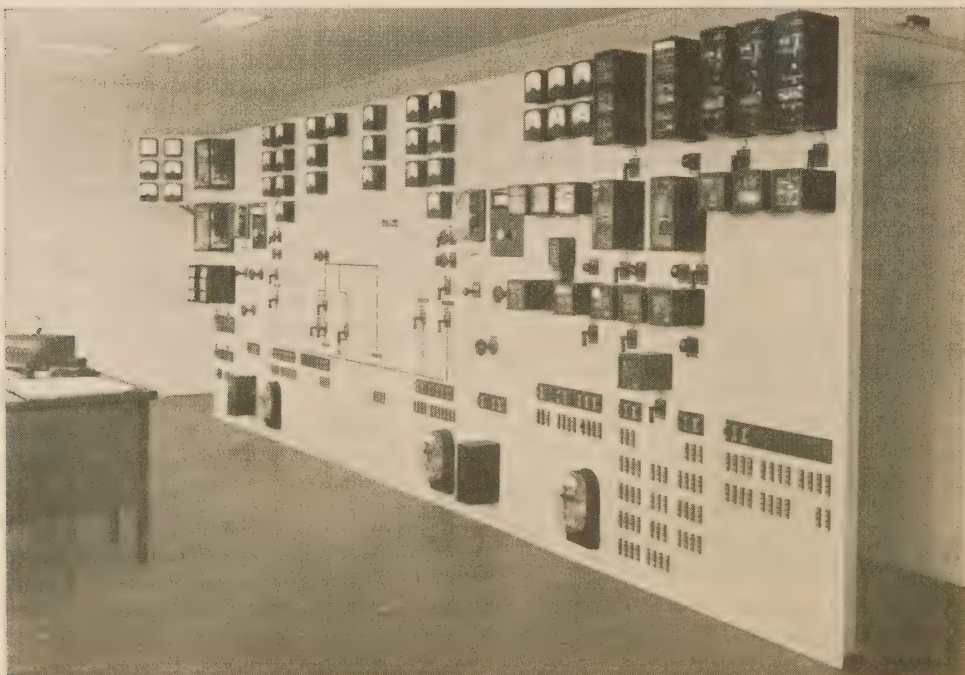
The new development at Ragged Rapids which was reported in 1937 Annual Report was completed and the first unit placed in service on October 18, 1938. The second unit will be in service early in November.

The powerhouse superstructure is of structural steel, brick and tile construction. The roof area is 73 ft. by 65 ft. There are three galleries. On the lower gallery are the control-room, water-pumps and station-service transformers. On the second gallery are the storage-battery and charging-set, domestic-water-chlorinator, work-shop and storage-room for spare parts. The top gallery contains the 6,600-volt metal-clad switch-gear and the head-gate hoists.

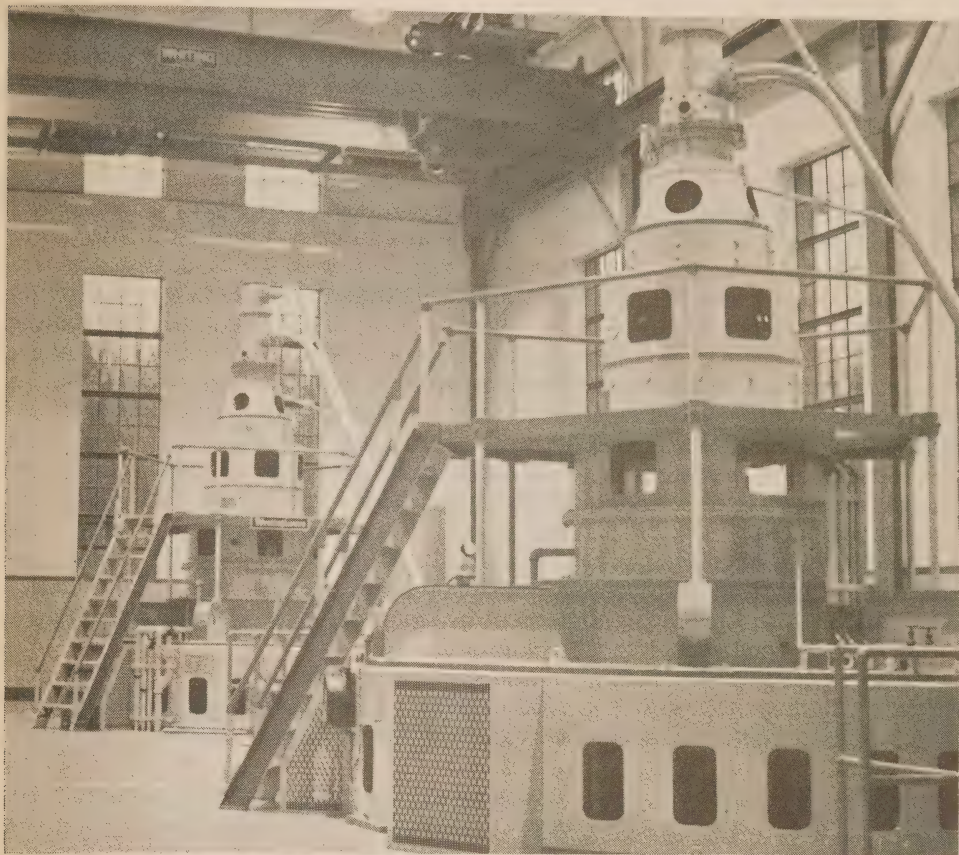
A motor-operated crane of 25-ton capacity is provided for the assembly of the generators and turbines.

The two 4,500-kv-a generators are each equipped with direct-connected main and pilot exciters. Mounted above the pilot exciter is the "oil head" for the control of the adjustable blades of the turbine-runner.

The 6,600-volt, metal-clad switchgear is arranged with special features for safety in the operation and maintenance of the equipment. Mechanical interlocks on the oil-circuit-breaker mechanism and separate removable compartments containing the potential-transformers assures isolation of these parts when required for inspection.



RAGGED RAPIDS GENERATING STATION—MUSQUASH RIVER
Control Board



RAGGED RAPIDS GENERATING STATION—MUSQUASH RIVER

Each 4,500 kv-a generator is surmounted by the main exciter, the pilot exciter, and the servo-motor operating the Kaplan blades

The main switchboard, located in the control-room, has eleven panels and a swing panel, all of stretcher steel painted oyster-shell grey. On this board are mounted all of the indicating and graphic meters, the relays, rheostatic voltage-regulators, generator-temperature-indicators, ground-detectors and annunciators.

The step-up bank of power transformers and 38,000-volt switching equipment are 300-feet from the power house. The structures are of galvanized steel. A transfer-track and truck provide facilities for moving a transformer to the erection building where it may be dismantled if necessary.

The main bank of transformers comprises three 3,000-kv-a, self-cooled units, with spare, which step-up the generator voltage for the supply of power to the system at 38,000 volts.

There are six operators' houses of semi-bungalow type, each having 6 rooms. These houses are equipped with electric service, chlorinated water and septic-tank-type sewage systems.

The single-phase 75-kv-a transformer installed last year at Minden was replaced by a bank of three 37.5-kv-a transformers which were placed in service on June 12, 1938.

Severn District—The transformer capacity at Painswick distributing station was increased. A bank of three 150-kv-a transformers was purchased and installed on June 2, replacing the original bank of three 100-kv-a transformers which was used at Pinedale distributing station.

At Penetang rural station the third 75-kv-a transformer was installed on June 8, to complete a three-phase bank.

Eugenia District—At Eugenia generating station the ventilation of the control room was improved and new telephone equipment was installed.

At Meaford distributing station a bank of three 50-kv-a transformers and the necessary switching and metering equipment was installed to provide an 8,000-volt feeder to supply power to a portion of the Meaford rural power district. As a result of fire damage to equipment in this station and Meaford municipal station, replacements were necessary. Changes were also made in the location of the voltage-regulators and service transformers to better co-ordinate the two stations and provide for additional feeders.

The 75-kv-a transformer at Kilsyth was replaced by a 150-kv-a transformer released from Pinedale distributing station. The installation was made temporary pending the erection of a new station on the present site. The released transformer was installed and placed in service at Priceville distributing station on October 20, replacing two 10-kv-a, single-phase units. The switching and metering equipment at this station was also replaced with larger capacity equipment.

At Kincardine distributing station a bank of three new 50-kv-a transformers was installed with the necessary switching and metering equipment to provide an 8,000-volt feeder to supply power to a portion of Ripley rural power district.

At Mildmay, Owen Sound and Orangeville rural metering stations and Wingham distributing station much of the equipment was replaced by more suitable equipment.

Wasdell District—A 3,000-kv-a, three-phase, 38,000/22,000-volt auto-transformer was installed at Wasdell Falls auto-transformer station, replacing the original 1,500-kv-a unit, for the supply of power to Wasdell district from the 38,000-volt circuits. The auto-transformer is equipped with on-load tap-changers automatically controlled to regulate the voltage on the Wasdell circuit. The original 1,500-kv-a auto-transformer is stored at the station as a reserve unit. The equipment was placed in service on September 21.

At Wasdell rural station the bank of three 75-kv-a transformers was replaced by a bank of three 150-kv-a units and the necessary changes were made to supply power at 8,000 volts instead of 4,000 volts as formerly. The replaced transformers were transferred for use at Huntsville distributing station.

The 150-kv-a, three-phase transformer at Pinedale distributing station was replaced by a bank of three 100-kv-a transformers released from Painswick distributing station. The necessary switching and metering equipment was also installed for an 8,000-volt feeder to supply power to Mariposa rural power district. The new equipment was placed in service on July 29, 1938.

Muskoka District—The capacity of Huntsville rural station was increased. The original bank of three 50-kv-a transformers was replaced with a bank of three 75-kv-a units recently released from Wasdell Falls rural station.

Bala District—The transformers at Bala generating station were changed from delta to a Y connected bank to supply power to the rural district and Port Carling distributing station at 11,400 volts.

A new distributing station was erected at Port Carling for the supply of power to the village. A bank of three 100-kv-a transformers was purchased and installed with the necessary switching and metering equipment on June 29. The old station was dismantled and the bank of three 75-kv-a transformers transferred to system reserve.

At Bala distributing station the necessary changes were made for the operation of the station at 38,000 volts instead of 22,000 volts as formerly.

EASTERN ONTARIO SYSTEM

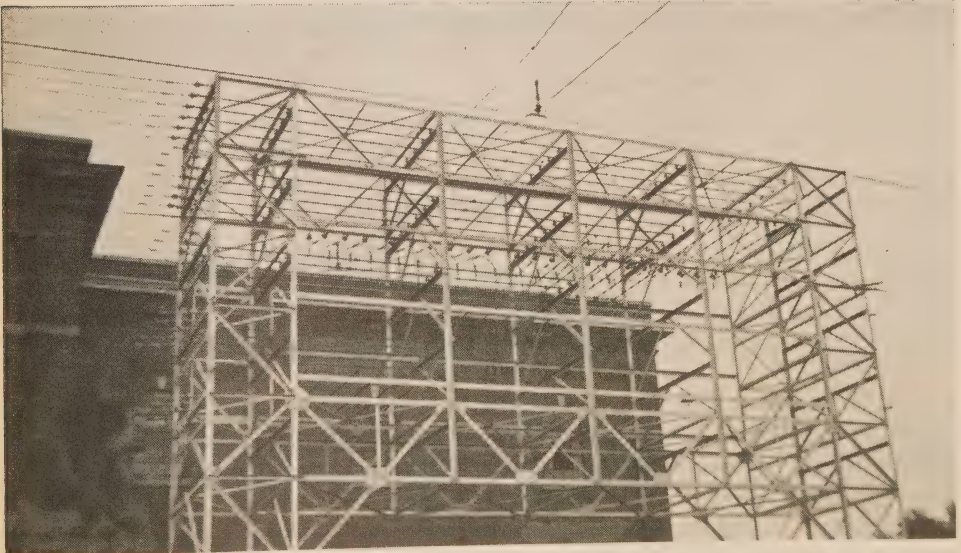
110,000-volt Transformer Stations

At Frontenac transformer station improvements were made to the on-load tap-changing equipment and an automatic-control feature was added. The station was extended and the necessary equipment installed to provide for three 44,000-volt feeders. Two of the feeders tie direct into the new Kingston municipal station and the other to the Central Ontario district at Belleville.

Central Ontario District—At Belleville distributing station No. 1 a 750-kv-a, three-phase transformer was replaced by a 1,500-kv-a unit recently removed from Kingston distributing station. The released transformer was transferred to system reserve.

The capacity of Kingston distributing station was increased. A 3,000-kv-a three-phase transformer was purchased and installed in an existing pocket replacing a 1,500-kv-a unit which was transferred to Belleville distributing station.

The capacity of Oshawa distributing station was increased by the installation of an additional 3,000-kv-a, three-phase transformer. This is the fourth transformer of similar capacity installed in the station.



OSHAWA DISTRIBUTING STATION
Out-door bus structure

At Lindsay distributing station a 24-volt storage-battery and frequency-relay were installed to make provision for automatically reclosing the 44,000-volt circuit to Auburn switching station.

The generating plant beside Ranney Falls generating station, purchased from Quinte and Trent Valley Power Company as reported last year, was placed in service with the 750-kv-a transformer on February 6, 1938. The remote-control feature is not yet completed.

Picton rural station was installed near the town of Picton to supply 8,000-volt power to the rural district in the vicinity. A bank of three 100-kv-a transformers released from Cataragui distributing station was installed and with the necessary switching and metering equipment was placed in service on March 6, 1938. A 37.5-kv-a transformer, which previously supplied single-phase power for this district, was removed for installation at Snow Road distributing station.

The necessary equipment was installed at Sulphide rural metering station to measure the power supplied to Stoco and Thomasburg.

Changes were made in the metering equipment at Port Hope and Warkworth distributing stations and the Department of Railways and Canals metering station near Campbellford. Equipment was installed to measure the power supply to Non-Skid Pavement Company Limited.

An oil circuit-breaker with automatic reclosing relays was purchased and installed at Auburn switching station in a 44,000-volt circuit to Lindsay distributing station.

Engineering assistance is being given Kingston Public Utilities Commission in the purchase and installation of three 3,000-kv-a, three-phase transformers and switching equipment to replace the original equipment in the station.

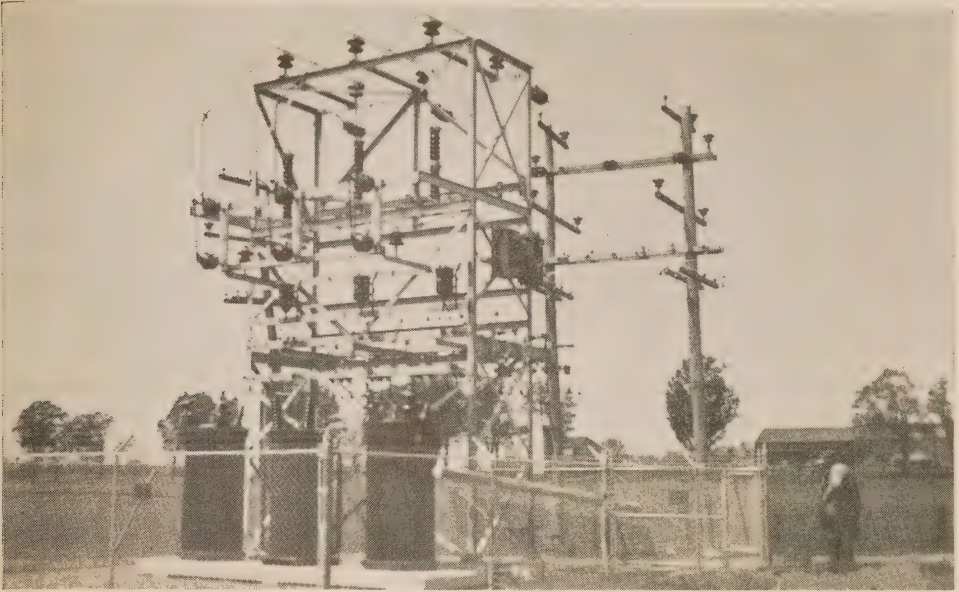
Engineering assistance is being given the Public Utilities Commission at Brockville in the purchase and installation of low-voltage metal-clad switching equipment for the municipal station. The equipment was purchased and installation will be completed next year.

St. Lawrence District—A distributing station was installed at Morrisburg to supply power to the village. A bank of three 100-kv-a transformers was purchased and installed with the necessary switching and metering equipment and the station placed in service on June 26, 1938.

The original Prescott rural station was replaced by a new distributing station. A bank of three 100-kv-a transformers was obtained from system reserve and installed with the necessary equipment; it was placed in service on August 28. The original bank of three 30-kv-a units was transferred to system reserve.

A distributing station was installed at Treadwell to supply power to the village and rural district at 8,000 volts from Gatineau Power Company's 11,000-volt circuit. A bank of three new 100-kv-a transformers was installed and placed in service on October 1, 1938.

Rideau District—The installation of the additional 750-kv-a transformers at Smiths Falls distributing station reported last year was completed and the transformers placed in service on December 15, 1937.



P I C T O N D I S T R I B U T I N G S T A T I O N

Snow Road distributing station was installed in the vicinity of High Falls generating station to supply single-phase power to Perth rural power district and Dalhousie Lake. A 37.5-kv-a transformer recently released from Picton rural station was used for this installation.

Single-phase metering equipment was installed at the south-east limits of Lanark to measure the 2,300-volt power supply to the municipality of Lanark.

At Carleton Place three-phase metering equipment was installed in a 2,300-volt feeder to measure the power supply to Carleton Place rural power district.

Madawaska District—When the two 2,000-kv-a generators at Calabogie generating station were being rebuilt following the damage by fire, the windings of the three 2,000-kv-a transformers were reconnected to give increased capacity to the bank for operation at system voltage. Additional lightning protection was installed and differential protection provided for the generators. A water-pump and storage-tank were installed to improve the water supply to the operators' houses.

At Arnprior distributing station the building was altered and improved switching facilities were installed. The station now supplies power to the distributing system at 4,000 volts instead of 2,300 volts as formerly.

Three-phase metering equipment was installed at the southern boundary of Braeside to measure the 2,300-volt power supply to the municipality.

THUNDER BAY SYSTEM

At Cameron Falls development eighteen new houses, school-house, emergency hospital, community-hall, general store and post-office, and garages are being erected and water-mains and other services extended on the west side of the river where a few of the operators' houses are already situated. The new houses are for the accommodation of the operating staff and their families who have been living in temporary buildings erected during the construction period in 1920 on the east side of the river. The original buildings will be dismantled when vacated. The new houses are of frame construction with insulated walls on concrete foundations. The work should be completed and the buildings occupied before 1939.

Houses were built at Long Lac transformer station and McKirdy and are under construction at Empire and Jellicoe for the accommodation of the patrolmen engaged in the maintenance of the transmission circuits from Cameron Falls generating station to Long Lac mining area.

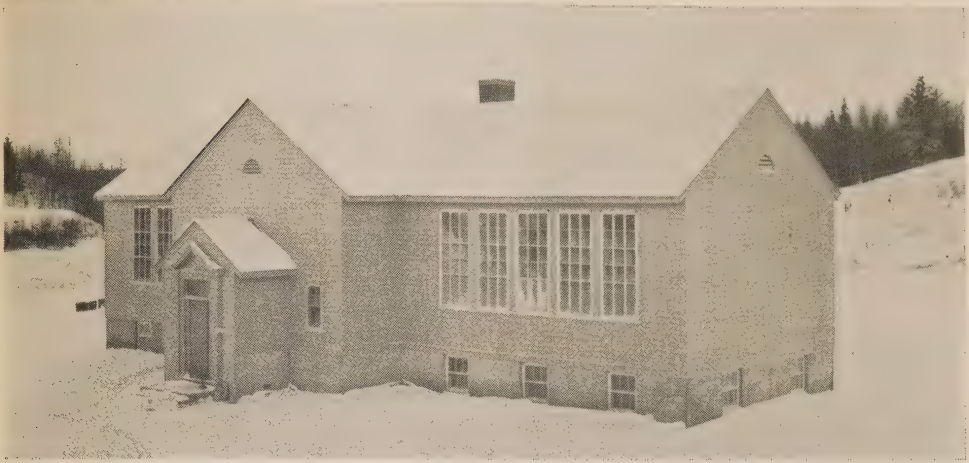
The transformer station under construction last year at Long Lac was completed and placed in service on January 23, 1938.

Metering equipments were installed to measure the power supplied to Magnet Consolidated Mines Limited, Tombill Gold Mines Limited and the increased load at Northern Empire Mines Limited. Changes were made in the metering equipment for Sand River Gold Mines.

Engineering assistance is being given the Public Utilities Commission at both Port Arthur and Fort William in the purchase and installation of additional transformers and switching equipment at their respective stations.



CAMERON FALLS DEVELOPMENT—NIPIGON RIVER
Operator's house



CAMERON FALLS DEVELOPMENT—NIPIGON RIVER
Colony Schoolhouse

NORTHERN ONTARIO PROPERTIES

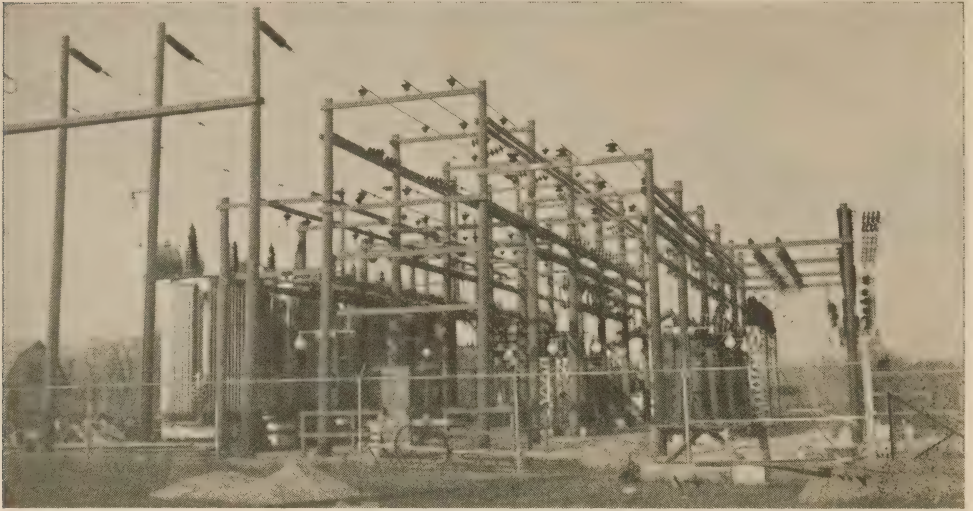
Nipissing District—At Nipissing, Bingham Chute and Elliott Chute generating stations additional metering equipment was installed.

North Bay rural station was installed near the city limits of North Bay to supply the new airport and radio beam station with power. One 37.5-kv-a transformer was purchased and used with two similar units obtained from system reserve to complete a three-phase bank which was placed in service on October 29, 1938.

Sudbury District—At Coniston generating station the necessary equipment was installed for a 22,000-volt circuit to Crystal Falls generating station. Four houses are being erected and an addition is being made to the existing boarding-house, for the accommodation of the operators.

A spare transformer was purchased and installed at Sudbury distributing station.

Abitibi District—The fourth bank of 16,000-kv-a transformers was permanently installed at Abitibi Canyon generating station on March 29, 1938. This bank had been held temporarily at Niagara for emergency service. Fourteen permanent houses and a community hall are being erected at Abitibi Canyon to accommodate members of the operating staff who have previously been occupying the temporary buildings which were erected during the construction period. Water-mains, services and roads are being extended where necessary. The buildings are of frame construction on concrete foundations with insulated walls. The majority of the buildings are now completed and occupied. The old buildings will be dismantled.



FRONTENAC TRANSFORMER STATION

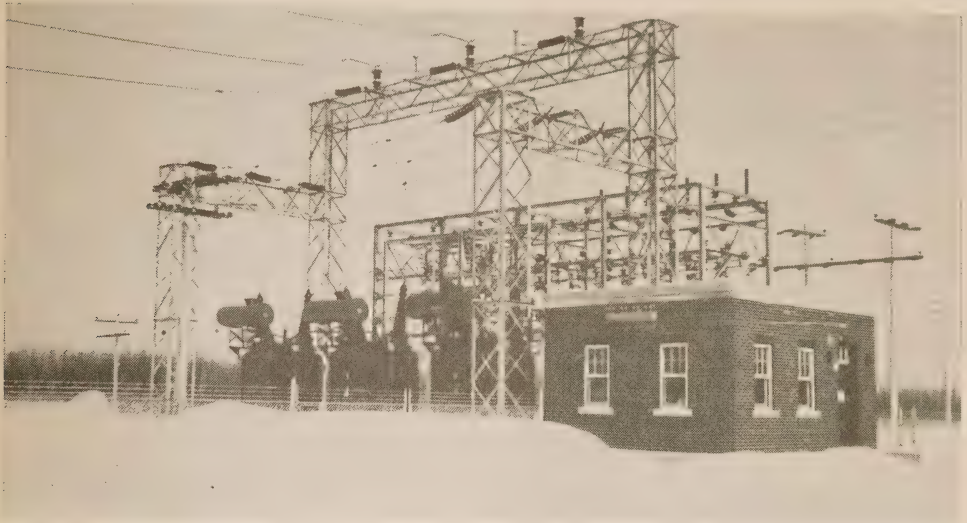
Plans are completed for the erection of houses, garages and storehouses where necessary at Hunta switching station, Mattagami, Matachewan, Westree, LaForest, Wawaitin, Island Falls and Iroquois Falls for the accommodation of the operators and patrol men along the 132,000-volt transmission circuits in the district. Some of the buildings are now being constructed and should be completed and occupied before 1939.

At Kirkland Lake transformer station the original bank of three 9,500-kv-a transformers is loaded beyond normal capacity and an additional bank of similar transformers and a 15,000-kv-a voltage-regulating equipment is being installed. One new transformer was purchased and will be used with two existing units originally secured from Ontario Power Service Corporation to complete the additional bank.

A temporary transformer station was installed on May 19, 1938 at Bourkes in the township of Benoit on Mesabi Gold Mines Limited property to supply power to this company at 26,400 volts. A 1,000-kv-a, three-phase transformer was obtained from system reserve and used for this installation.

Matachewan distributing station was replaced by a new and larger capacity station which was installed on Hollinger Consolidated Gold Mines Limited property. A bank of three 75-kv-a transformers was obtained from Niagara system reserve for this installation and the three original 25-kv-a units were transferred to reserve. The new station was placed in service on May 19, 1938.

Smooth Rock Falls distributing station was installed at Abitibi Smooth Rock Falls (steam) transformer station to supply single-phase power to the village of Mooretown. A 100-kv-a transformer was purchased and the installation completed on April 27, 1938.



LONGLAC TRANSFORMER STATION

Equipment was installed to meter the power supply to Hoyle Gold Mines Limited, Barber-Larder Gold Mines Limited, Hallnor Mines Limited, Chesterville Larder Lake Gold Mining Company, Augite Porcupine Mines Limited, and Lakeside Kirkland Gold Mines Limited.

Additional metering equipment was installed to measure the increased power supply to International Nickel Company at Copper Cliff, Falconbridge Nickel Mines, Moneta Porcupine Mines Limited and Hollinger Consolidated Gold Mines Limited at Matachewan.

Abitibi District, 60-Cycle Division—Metering equipment was installed at the Espanola generating station of the Abitibi Power Company and at Denison Nickel Mines Limited sub-station to meter the purchased power being supplied to the latter company. Similar equipment which was installed for McMillan Gold Mines was dismantled as the power supply was discontinued.

Patricia District—The additional buildings being provided for the accommodation of the operating staff and families at Ear Falls generating station and reported in last year's Annual Report were completed.

Engineering studies were made during the year for the supply of power to prospective mining companies in the Woman Lake area of the Patricia district about 48 miles away and for the supply of power to St. Joseph district from Ear Falls development.

The necessary equipment was installed to measure the power supply to Madsen Red Lake Gold Mines Limited.

St. Joseph District—Additional metering equipment was installed at Rat Rapids No. 2 generating station.

SECTION VI

TRANSMISSION, DISTRIBUTION AND RURAL SYSTEMS

TRANSMISSION SYSTEMS

INCREASED demands and new loads have necessitated many changes and additions to the Commission's transmission systems during 1938.

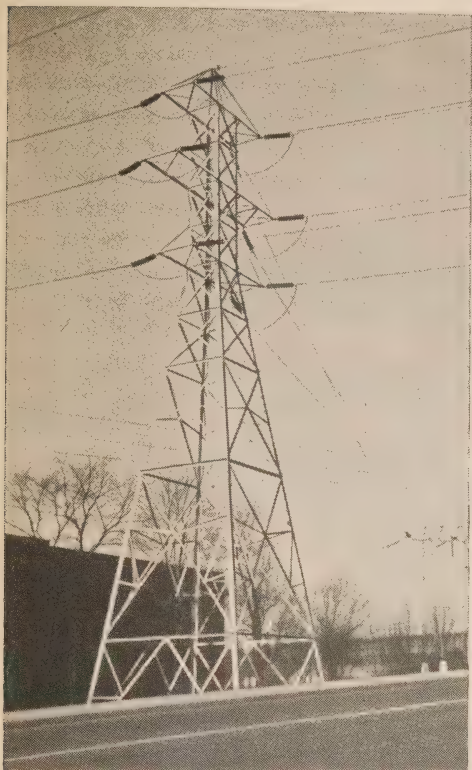
At a cost of approximately \$1,104,000, a total of 135.35 miles of transmission line were placed in service, as indicated in the following tabulation; of this total, 47.39 miles were acquired by purchase, chiefly 44,000-volt lines in the Patricia district.

MILEAGE OF TRANSMISSION LINES PLACED IN SERVICE,
YEAR ENDED OCTOBER 31, 1938

	Niagara system	Georgian Bay system	Eastern Ontario system	Thunder Bay system	Northern Ontario Properties	Totals
	miles	miles	miles	miles	miles	miles
110,000-volt lines	7.93	.....	.....	.....	.....	7.93
46,000-volt lines	2.07	.....	.....	.....	.....	2.07
33,000-volt to 44,000-volt lines	3.04	10.20	17.94	1.33	47.39	79.90
11,000-volt to 26,400-volt lines	33.17	.....	.....	.....	12.28	45.45
Totals	46.21	10.20	17.94	1.33	59.67	135.35

In addition, revisions and improvements were made in all systems where required.

A map showing the transmission lines and stations of the Commission will be found at the back of this Report and summary tabulations respecting transmission lines in Appendix II.



TRANSMISSION LINES IN TORONTO

The 110,000-volt connecting link between Leaside and Strachan transformer stations (See also Frontispiece)

The following synopsis shows, by systems, the work completed during the year.

NIAGARA SYSTEM

High-Voltage Lines

The construction of a double-circuit 110,000-volt, steel-tower line was completed between Leaside and Strachan Avenue transformer stations, a total distance of 7.02 miles. This line augments the existing circuits which connect the Leaside transformer station with the Niagara system.

The existing single-circuit, 60,000-volt, wood-pole line used as a tie line between Niagara and Toronto Power transformer stations, was replaced by a double-circuit, steel-tower line.

A tower in the 110,000-volt line connecting Kitchener transformer station to Erbs Junction, was relocated to clear a new roadway being constructed by the township of Waterloo.

The wood-pole, 110,000-volt junction structure at Allenburg was removed and revisions to adjacent steel towers were made, so that the circuits are carried through this point to Dundas and St. Thomas transformer stations.

The ground cable was removed from the former Toronto Power 90,000-volt and 60,000-volt lines in the section where the circuits are being used at 13,200 volts, to supply Clarkson and Islington, a total distance of approximately

10 miles. This cable, due to its age, had become rusted and was a hazard to the adjacent power circuits.

Six circuit miles of 190,000 circular-mil copper cable was salvaged from an unused portion of the former Toronto Power 90,000-volt steel-tower line in the Niagara Peninsula.

Rearrangements of the 46,000-volt circuits at Welland transformer station and vicinity, to provide a supply to the Dunnville circuit from this transformer station instead of from Niagara Falls, were completed.

A new junction, N87, was established on the 46,000-volt line at tower No. 305, and a single-circuit wood-pole line was constructed to a new municipal station in Welland, a distance of 1.17 miles.

A 44,000-volt wood-pole line was constructed between a point near Hamilton Beach transformer station and the Dominion Power and Transmission station "C", a distance of approximately 3.25 miles. This work also included 44,000-volt and 110,000-volt line changes to release the present 110,000-volt circuit, to be used as a second line between Hamilton Beach and Stirton Street (Hamilton) transformer stations.

26,400-Volt Lines

Drop-out fuses were installed in the 26,400-volt, single-circuit, wood-pole line on Yonge street at Langstaff and St. Andrew's junctions, and on the pole adjacent to the switch structure at Newmarket distributing station.

Between Mount Joy distributing station and the new Green River distributing station, a single-circuit No. 2 a.c.s-r. line* was completed, a distance of 5.30 miles. The existing air-break switch which was used to control the line to Ringwood distributing station, was relocated and a switch was erected in the new line.

The $\frac{1}{4}$ " steel ground cable was removed from five double-circuit sections of line, totalling 39.09 miles, between Stratford transformer station and Goderich municipal station.

Sixteen poles were stubbed and six others were replaced with higher ones, to accommodate attachments of Goderich rural power district in the 24-year-old Clinton junction-Goderich line.

Poles were stubbed and others replaced in the Burford junction to Waterford junction, 26,400-volt line, to provide space for rural attachments.

A pole in the Ayr junction to Drumbo distributing station line was replaced to provide space for the erection of a Drumbo rural power district transformer.

A single-circuit, 26,400-volt, wood-pole line was constructed from a new junction on the Waterford junction to Port Dover junction line, to Delhi distributing station, a distance of 12.19 miles.

Poles were stubbed in the Paris junction to Burford junction line in order to provide adequate strength for additional attachments to be erected by Burford rural power district.

On seven sections, totalling 32.18 miles, in Kent district 26,400-volt lines, ground cable was removed. These, together with three other sections totalling 18.93 miles, were rebuilt with pole top pins.

*a.c.s-r.—Aluminum cable steel-reinforced.

The crossing over the Michigan Central railway, near Ridgetown, was rebuilt, in order to keep it in conformity with the Board of Railway Commissioner's specifications.

Circuits were removed between Wallaceburg junction and Dominion Sugar Company and the poles left standing for the use of Wallaceburg rural power district. This work was undertaken to reduce carrying charges on the inactive line.

Rural services were revised, poles lowered and some others relocated in the 26,400-volt line connecting Puce junction with Essex distributing station, on account of ditching operations by the township of Maidstone.

A steel, lattice-type tower with concrete footing was erected to replace a 50-foot, 2-pole structure at the Canada Salt Company near Windsor.

Other Lines

Between DeCew Falls generating station and a new junction at Welland south, the former 22,000-volt Dominion Power and Transmission lines, built in 1910, were revised. One line having concrete poles, 8.45 miles long, was removed; the other, a wood-pole line, was rebuilt to a single-circuit of 1/0 copper, 6.65 miles, and 115,000 circular-mil copper, 3.20 miles. The line supplying the Beatty-Welland and the Plymouth Cordage companies was connected to this circuit. Between the new junction and the Maple Leaf Milling Company at Port Colborne, 8.35 miles, the former double-circuit line was converted to single-circuit, having pole-top-pin configuration.

The Lucan-Exeter-Dashwood, 13,200-volt line was reinsulated and re-conditioned for operation at 26,400 volts. The old ¼" steel ground cable was removed, and the conductors were rearranged to pole-top-pin configuration. The total distance is 21.85 miles.

Connections were completed to the Ilderton 13,200-volt distributing station situated on the highway north of Arva.

The ¼" steel ground cable was removed, and a pole-top-pin was erected to carry the middle phase on a group of 13,200-volt line sections between Elora junction and Georgetown distributing station, a total length of 22.20 miles. Some poles were moved to a safer distance from the travelled roadway.

GEORGIAN BAY SYSTEM

High-Voltage Lines

The new 38,000-volt line from Big Chute to Matchedash junction, a distance of 10.20 miles, was completed, and connection was established to existing circuits extending northerly from Big Chute to Bala. The section of line near Bala, 3.84 miles in length, was re-insulated for 38,000-volt operation, and connection, operating at 38,000 volts, was thereby established from Bala to a new development at Ragged Rapids and to Waubaushene.

Eugenia District

Due to the widening of Highway No. 10, it was necessary to relocate approximately three miles of 22,000-volt wood-pole line between Holland Centre and Chatsworth. Guys were relocated in the Eugenia-Dundalk and Elmwood-Tara sections in order to provide additional clearance to adjacent Bell Telephone Company's line.

Wasdell District

Extensive revisions have been carried out on the 22,000-volt lines from Wasdell Falls to Beaverton and Cannington. In the first section south from Wasdell generating station, one 22,000-volt circuit, which formerly was connected to the circuit from Orillia, was removed and the Orillia connection was made direct to the line at this point. The $\frac{1}{4}$ " steel sky wire was removed through to Beaverton and Cannington, and a metal pole top pin was installed.

From Beaverton junction to Beaverton, 1.59 miles, the conductor of $\frac{1}{4}$ " steel was replaced with a circuit of 1/0 a.c.s-r., and from Beaverton junction to Cannington, a distance of 9.59 miles, the No. 2 a.c.s-r. conductor was replaced with a circuit of 1/0 a.c.s-r. Sections of line were relocated where road changes made this procedure advisable, and the line was in general extensively overhauled and placed in a more satisfactory operating condition.

EASTERN ONTARIO SYSTEM**Central Ontario District**

Between the recently acquired generating station at Sills Island and the Trenton transformer station, a distance of 5.85 miles, a new 44,000-volt transmission line has been constructed, carrying a single circuit of No. 2 a.c.s-r., for a distance of 1.9 miles, and a circuit of 115,000-circular-mil copper for the balance of the distance of 3.95 miles.

A new 44,000-volt, single-circuit line of 4/0 a.c.s-r. conductor, with telephone, was constructed from Auburn switching station at Peterborough to Cavan junction, a distance of 8.02 miles, at which latter point connection is established to the existing circuit to Port Hope. The 44,000-volt line from Auburn switching station to Lindsay, a distance of 28 miles, was overhauled, additional guys were provided, and the conductor was resagged.

From Picton junction to Picton, a distance of 28.25 miles, the 9 32 inch steel conductor was replaced with a circuit of No. 2 a.c.s-r., thereby materially improving the voltage condition to Picton and intermediate stations.

From Frontenac transformer station at Kingston, a new 44,000-volt circuit, 2.07 miles long, was constructed to intersect the existing line at York Road, near Cataraqui. The 44,000-volt lines in the city of Kingston were sold to that municipality.

St. Lawrence District

The 44,000-volt line on congested streets in the town of Prescott was moved to a point north of the town. This involved the removal of 1.03 miles of line, and the construction of 1.68 miles of new line.

At Morrisburg, connections were made to a new station in the municipality, involving the construction of 0.32 of a mile of single-circuit, 44,000-volt line along the canal, together with the installation of an air break switch at the junction.

At Cardinal distributing station, sectionalizing air break switches have been installed to improve service.

Madawaska District

An additional air-break switch has been installed on the 33,000-volt lines at Burnstown junction for sectionalizing purposes.

THUNDER BAY SYSTEM

A 44,000-volt air break switch was erected at Beardmore distributing station on Cameron Falls side.

Two 44,000-volt air break switches were erected at Nezhah junction and two at Bankfield junction.

Some additional clearing was done on the Sturgeon River Gold Mines transmission line.

Between Bankfield Consolidated Mines Limited and Magnet Consolidated Mines, a distance of 1.33 miles, a single circuit 26,400-volt, wood-pole line was completed.

Privately owned transmission lines approximately 8 miles long were incorporated in the Thunder Bay transmission system.

NORTHERN ONTARIO PROPERTIES

Abitibi District—132,000-Volt Lines

Expulsion gaps and grounding system were installed in a portion of the 132,000-volt, double-circuit, steel-tower line between Timmins and Copper Cliff transformer station.

On the above line, two interswitching stations were constructed, one at Mettagami and one at La Forest, each station composed of five gang-operated switches mounted on steel structures.

Other Lines

A single-circuit, 26,400-volt, wood-pole line 850 feet long, was constructed to the Augite Porcupine Mines Limited station.

A similar line to the above, 580 feet long, was constructed to the Barber-Larder Gold Mines Limited station.

From a point on the existing line to the Kerr-Addison Mines, a single-circuit, 26,400-volt wood-pole line was constructed to the Chesterville Larder Lake Gold Mining Company Limited, a distance of 1.14 miles.

At Pamour transformer station a short tap line, 1.22 miles long, was constructed to the existing Hallnor transmission circuit, and in the same district, 1.37 miles of single-circuit, 26,400-volt line was constructed to the Hoyle Gold Mines Limited.

Sudbury District

Defective insulators on the 33,000-volt line between Espanola and High Falls were replaced, in order to provide better operating service to the Denison Nickel Company Limited.

Privately owned lines to the extent of 6.8 miles, were incorporated into the transmission lines of the Sudbury district.

Patricia District

The privately owned 44,000-volt transmission line, 40.56 miles, previously owned by the Howey Gold Mines Company, was purchased and incorporated into the transmission system of the district, after considerable rehabilitation work was done on the structures.

Nipissing District

Reconditioning work was completed on the existing transmission lines between Crystal Falls junction, and Sturgeon Falls junction, recently purchased from the Abitibi Power and Paper Company.

A telephone circuit, 24 miles in length, was erected on existing 22,000-volt pole line between Sturgeon Falls and North Bay, in order to facilitate the operation of the Sudbury and Nipissing systems.

TELEPHONE LINES—ALL SYSTEMS

In the Niagara system 9.1 miles of 2-circuit telephone pole line near Ancaster and Preston, and 1.1 miles of 4-circuit line in the vicinity of Nelson were rebuilt. Further pole lines rerouted included a 2.7 mile section between Saltfleet junction and Hamilton transformer station, 3.3 miles of double-circuit pole line near Preston, and 1.5 miles of similar line near Beachville. A single circuit was extended on existing rural poles from Fruitland distributing station to Stoney Creek 1.6 miles, and from Welland transformer station to Port Colborne 5.7 miles.

Conductor was replaced on a 2-circuit line for 4.7 miles near Ingersoll, and 4.2 miles of a single-circuit line between Kitchener and Stratford was renewed.

In the Georgian Bay system 26.2 miles of existing circuits were restrung and augmented by a second circuit, and 11.1 miles of circuit were replaced between Bradford and Fergusonvale. Between Eugenia generating station and Meaford junction a second circuit was erected for a distance of 8.4 miles.

In the Eastern Ontario system a 10-pair lead covered cable was erected and 8 circuits of open wire were retransposed between the switching station and the office at Belleville, a distance of 1.5 miles.

DISTRIBUTION LINES AND SYSTEMS**Rural Power Districts**

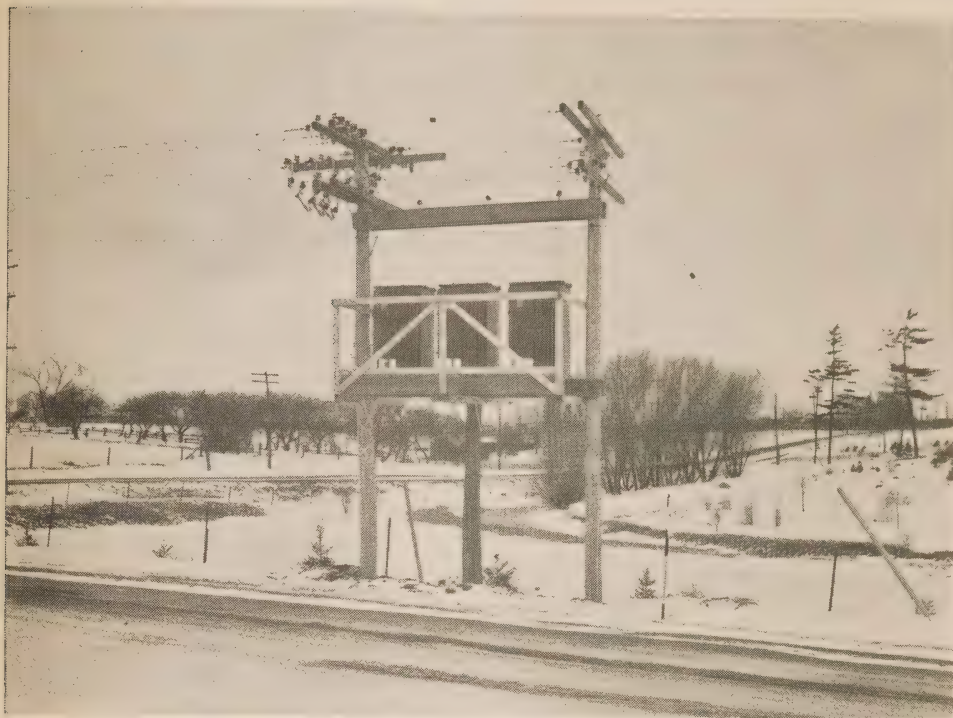
Greater progress was made during the year, in the extension of lines in rural power districts, than in any previous year.

Appendix III shows, in tabular form, the growth in each of the 181 districts.

During the year 2,390 miles of new primary lines were constructed and service was given to 13,335 additional consumers.

The record shows that, to date, 15,036 miles have been constructed and 97,409 consumers are now receiving service.

In addition to the construction of new lines, improvements were made in many districts to provide better service. Such improvements consisted of the installation of voltage regulators, the replacement of smaller conductors by conductors of larger carrying capacity, the changing of primary voltages from 4,000 to 8,000 volts, etc.



AUTOMATIC VOLTAGE REGULATORS—BOND LAKE R.P.D.
Yonge St. at Langstaff—50 amperes—2,300 volts

NIAGARA SYSTEM

Aylmer R.P.D.—The primary lines in the northern part of the district were changed from 4,000/2,300 to 8,000/4,600 volts. The whole district is operated now at 8,000 volts, the southern part having been changed several years ago.

Caledonia R.P.D.—The primary lines in the southern section of the district were changed from 4,000/2,300 to 8,000/4,600 volts.

Dorchester R.P.D.—The No. 4 copper conductors of the primary line from Dorchester to Belmont were changed to No. 1/0 copper.

Harrow R.P.D.—The No. 4 and No. 6 primary conductors between Harrow and Colchester, were removed and replaced with three conductors of No. 3/0 aluminum, steel-reinforced, with neutral of No. 2 of the same material.

East and west from Colchester, conductors were changed from No. 6 copper to No. 2/0 aluminum, steel-reinforced, with No. 2 neutral of the same material.

Ingersoll R.P.D.—The primary lines in this district were changed from 4,000/2,300 to 8,000/4,600 volts.

Oil Springs R.P.D.—The single-phase line from Oil Springs to Inwood was converted to three-phase by the addition of two conductors of No. 4 copper.

St. Thomas R.P.D.—The primary conductors to serve the Provincial Hospital were increased in size from No. 6 copper to No. 1/0 copper.

Wallaceburg R.P.D.—From Wallaceburg to the hamlet of Electric four primary conductors of No. 6 copper were removed and replaced by three conductors of No. 2 aluminum, steel-reinforced and a No. 4 copper neutral.

Walsingham R.P.D.—The primary lines in northern part of this district were rearranged to feed from the new 8,000/4,600-volt substation at Delhi.

Woodbridge R.P.D.—Malton Airport was given service from a new substation.

GEORGIAN BAY SYSTEM

Bala R.P.D.—Primary voltage was changed from 6,600 to 12,000/6,900 to provide improved service.

Gravenhurst R.P.D.—For the Department of Transport the Reay Emergency Landing Field was given service.

Hawkestone R.P.D.—Primary lines in this district were changed from 4,000/2,300 to 8,000/4,600 volts.

Mariposa R.P.D.—Primary lines in this district were changed from 4,000/2,300 to 8,000/4,600 volts.

Meaford R.P.D.—Fourteen miles of three-phase, 8,000/4,600-volt line was constructed between Meaford and Clarksburg with thirty miles of single-phase extensions therefrom.

Minden R.P.D.—A distributing system was constructed in the village of Kinmount.

Sparrow Lake R.P.D.—Primary voltage in this district was raised from 4,000/2,300 to 8,000/4,600.

EASTERN ONTARIO SYSTEM

Kingston R.P.D.—A submarine cable one and one-half miles in length was laid to give service on Wolfe island.

Lakefield R.P.D.—Primary voltage was changed from 6,600 to 12,000/6,900.

Madoc R.P.D.—Service was given for the first time in this district, seventeen miles of primary line being completed.

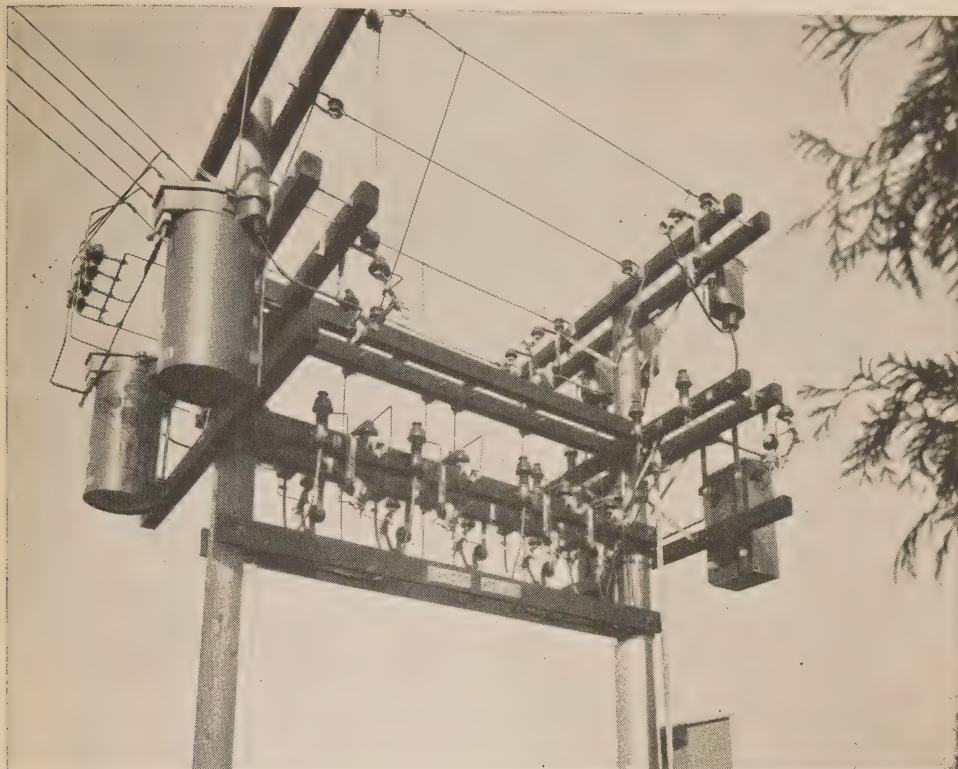
Maxville R.P.D.—Service was improved by the installation of a substation at Treadwell; power is supplied to this station through a submarine cable across the Ottawa river.

Napanee R.P.D.—Amherst island was given service by the laying of a submarine cable 1.45 miles in length.

Nepean R.P.D.—Overhead lines adjacent to the Rockcliffe Airport were dismantled and replaced by underground cables.

THUNDER BAY SYSTEM

Port Arthur R.P.D.—A ten mile extension of 6,900-volt line was made to serve summer cottages at Loon Lake.



MALTON AIR PORT—METERING AND SWITCHING STRUCTURE

Main switching and metering structure controlling 12 underground cables supplying the air port for Trans-Canada Airways. All cables can be inter-switched. Service transformers for 3-phase supply at 230 volts to the Administration building are also shown

MANITOULIN RURAL POWER DISTRICT

Manitoulin R.P.D.—Thirty-three miles of three-phase 12,000/6,900-volt line and eight miles of single-phase, 6,900-volt line were constructed to serve Manitowaning and South Baymouth.

NORTHERN ONTARIO PROPERTIES

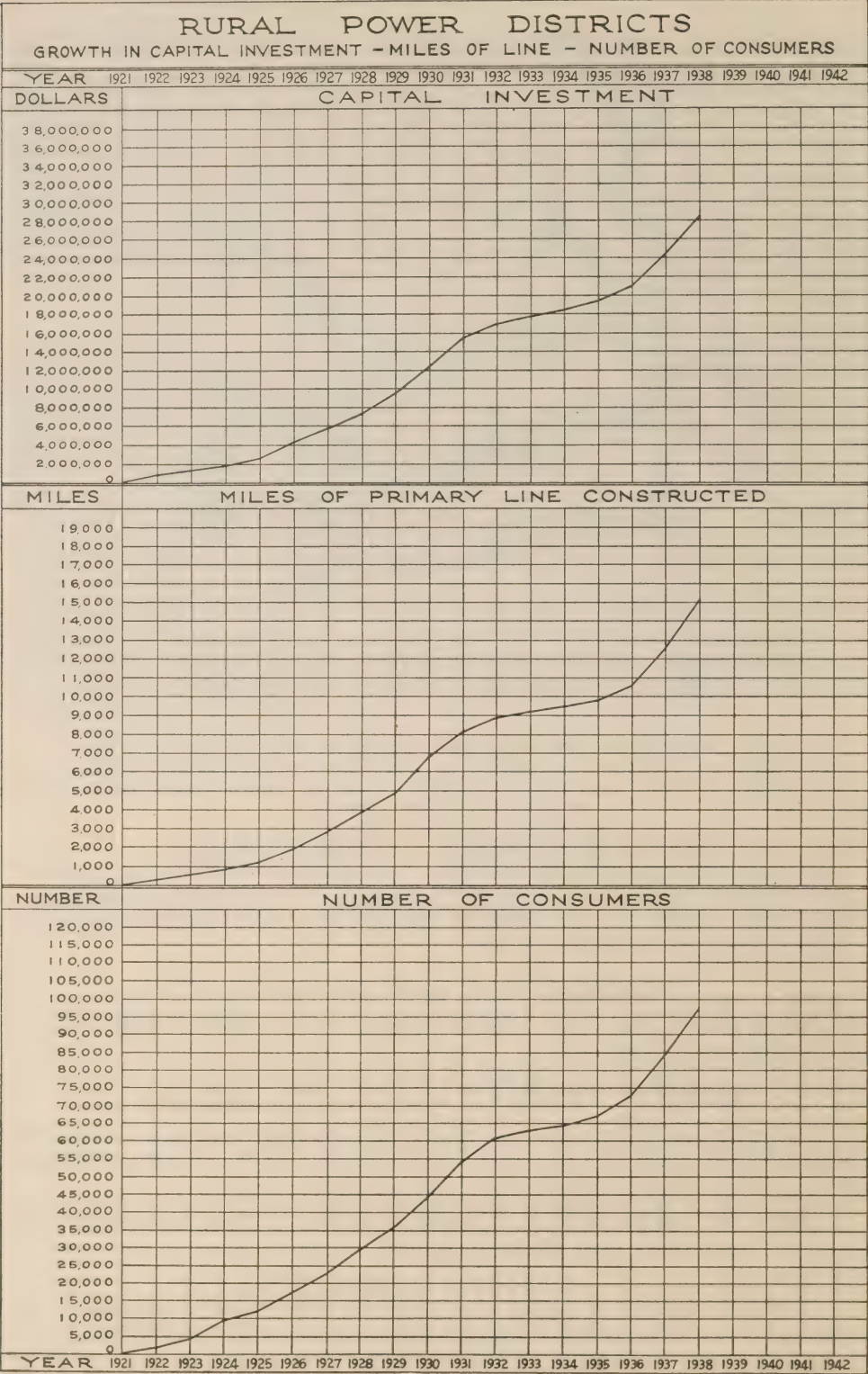
North Bay R.P.D.—6.6 miles of 8,000/4,600-volt line was built to serve the North Bay Airport.

HIGHWAY LIGHTING AND TRAFFIC SIGNALS

At the request of the Department of Highways of Ontario the Commission undertook to install a system of modern lighting on the four-lane highway which is under construction between Toronto and Burlington.

Lights are now in operation on a section, thirteen miles in length, extending from the intersection with Highway No. 27 (Brown's Line) to the town of Oakville.

In general there is a center boulevard, 30 feet in width, separating the pavements and the poles which support the luminaires are erected in the center of the boulevard. On tangents the poles are 200 feet apart, this spacing being





LIGHTING OF DUAL HIGHWAY, TORONTO TO BURLINGTON
Supports are placed in centre boulevard, wires are underground



LIGHTING OF DUAL HIGHWAY, TORONTO TO BURLINGTON
Night view



LIGHTING OF DUAL HIGHWAY, TORONTO TO BURLINGTON
Truck with extension ladder for installation and maintenance

reduced to 150 feet at curves. The poles are 35 feet in length, of Western cedar, stained green and treated at the ground line to retard decay.

The brackets supporting the luminaires are of welded tubular steel, galvanized, 18 feet in length. Two are mounted on each pole, 180 degrees apart and extend 3 feet over the edge of the pavement. The light center is 25 feet above the surface of the pavement.

As there are already some mature trees on the boulevard, and others will be planted, the wires to serve the lighting units have been placed underground, two feet below the surface of the boulevard. The circuit is energized at 230/115 volts.

The standard luminaire is fitted with a glass refractor and houses a 300-watt incandescent lamp.

For comparison in illumination value, a length of one mile of sodium vapour units was installed.

Special attention was given to the lighting of the clover-leaves at Port Credit and Burlington, and the several bridges along the highway.

All lighting circuits are controlled by photo-electric units.

Other work carried on for the Highways Department included the supervision of the lighting of the Canadian section of the Sarnia-Port Huron international bridge and installation of traffic signals at several places on the King's Highways.

SECTION VII

TESTING—RESEARCH—INSPECTION

PRODUCTION AND SERVICE

THE Laboratories have continued their service to other departments, and to municipalities, in testing, inspecting and checking materials and equipment to insure that suitable characteristics and reasonable life in service are being obtained. Various materials entering into construction, such as gravel, cement, metals, wood, paint and insulation, are examined, and typical specimens are tested. Fabricated work and assembled equipment are inspected at the factories; on both electrical and mechanical equipment tests are witnessed and measurements made. Reports are then prepared as the basis for acceptance or rejection of the equipment and to record the results for future reference. This work includes generators, turbines, transformers, oil circuit breakers and other switch gear, together with lighting and metering equipment.

Research work is carried on at all times to improve quality and characteristics in equipment, to determine causes of failures, and to reduce cost of operation. New applications of electricity which appear to be worth while are investigated with a view to increasing the sale of electrical power or rendering its use more convenient for present consumers.

The Research Committee, organized in 1933, now has fourteen active subcommittees which work in conjunction with the Laboratories on various important problems of the Commission, giving opportunity for exchange of ideas and development of suggestions from individual members of the staff regarding new equipment and processes.

The Approvals Laboratory handles a very large volume of work each year in examining and testing appliances of various types, and also wire and wiring materials, to make certain that these are substantially made and that adequate protection against fire and electrical shock is provided. There have been remarkably few serious electrical accidents in the Province, a situation which, to some extent, is due to the activities of this department.

Electrical installations in residences, factories and other buildings, are inspected and checked according to standard rules to reduce as much as possible the chance of accident and the fire hazard. A high class of workmanship and the use of approved material and devices are the chief requirements, and inspection insures that such features have been given the necessary attention.

TESTING AND RESEARCH LABORATORIES

Routine and General Testing

The Laboratories have done a large amount of inspection and routine testing on various devices, equipment and materials for use by other departments of the Commission, or for municipalities. This work is very diversified in nature, requiring much testing equipment and a broad knowledge, on the part of testing engineers and inspectors, of the characteristics desired in the finished equipment and installation.

Materials and Equipment Inspection

There was a very large increase in the factory testing of transformers, and in mechanical equipment inspected. The checking of welding has been given particular attention and has resulted in improved workmanship.

The testing of paint has increased in volume, and the desire for better lighting has resulted in much greater service being rendered by the Laboratories in the preparation of lighting plans with recommendations for different applications.

Tests of a wide variety have been made to insure satisfactory characteristics in equipment purchased.

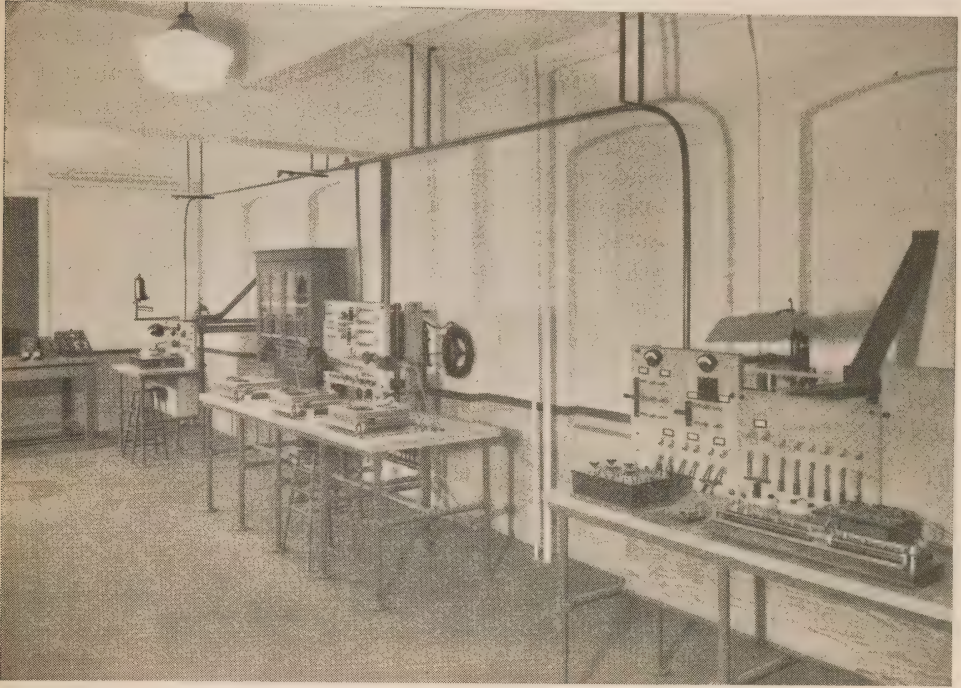
Transmission Line Materials

Inspection of all transmission line materials handled by the Strachan Avenue stores was carried out as usual. This covered crossarms, insulator pins, general line hardware, wire and cable. The copper wire, steel-reinforced aluminum and galvanized steel cable inspected amounted to 2,200 tons.

Electrical Equipment

Factory inspection included two 4,500-kv-a generators, and 135 power transformers of various sizes, with total capacity of 296,860 kv-a. There were also inspected, 7,780 distribution transformers, 29 oil circuit breakers with total of 2,979,000 kv-a, 8,700 disconnecting switches of different types, totalling 7,986,500 kv-a, and about 290,000 line and bus insulators. Switchboards and metal-clad switch gear were inspected for two municipalities and for three of the Commission's stations. The generators, with some transformer and switching equipment, were inspected for the new Ragged Rapids generating station. The power transformers inspected include six new units, each of 25,000 kv-a rating, for Leaside transformer station.

Routine tests were made in the Laboratories on 5,080 pairs of linemen's rubber gloves, 2,800 samples of insulating oil, 8,500 thermostats with 18,000 fuse links, and 509 insulators of various types. Also 3,315 watthour meters were repaired and checked, 183 indicating instruments were calibrated, and 172 instrument and distribution transformers were tested.



THE STANDARDS ROOM

In which electrical instruments are calibrated, and measurements of very high accuracy are made

Mechanical Equipment

Two 5,200-h.p. turbines were inspected at the manufacturer's plant; these were installed at the Ragged Rapids generating station. There were four 15-ton headgate hoists, two 48-inch butterfly valves, a 25-ton crane and one 10-ton speed winch.

Miscellaneous items included headgates, folding doors, louvres, sluice gates and mechanisms, hand railings, valves and ventilator framework. A large number of welded tanks for various purposes were inspected, and also the assembly of a gasoline engine generator set, 20 kw, for excitation purposes in the field.

Concrete

Resident inspectors were maintained on six construction projects. Their duties consisted of testing the aggregates used and supervising the various manufacturing processes. Samples of the field concrete were obtained and tested, as a check on its quality, and laboratories were established for this purpose on five of the jobs.

Field inspections were made of sixteen structures in service. These inspections serve a triple purpose for they record for future reference the condi-

tion of the concrete, they disclose the need for repair work where such is necessary, and they provide data on the probable life of concrete under different exposures.

Paint

About 150 samples of paint were tested to insure that uniform quality was being maintained. Several new paints were added to the approved list for various applications.

Steel and Timber

The inspection of steel covered a total of 1,711 tons for various purposes. Reinforcing steel and galvanized sheet steel showed a large increase over last year. In addition, 318 stop log timbers were inspected.

Lamps and Lighting Service

There were 65,600 lamps checked at the factory and 3,170 tested at the Laboratories. Also a number of special lamps were checked to determine their characteristics.

More lighting plans were prepared than in previous years, a total of 325, and recommendations were given as to their application for different types of building.

Three headlight devices for automobiles were examined, and tests made on a new directional signal. A report was prepared on one type of fog signal.

Different kinds of safety glass have been tested, a total of 210 samples; these tests are now standardized, so that valuable comparative information is obtained.

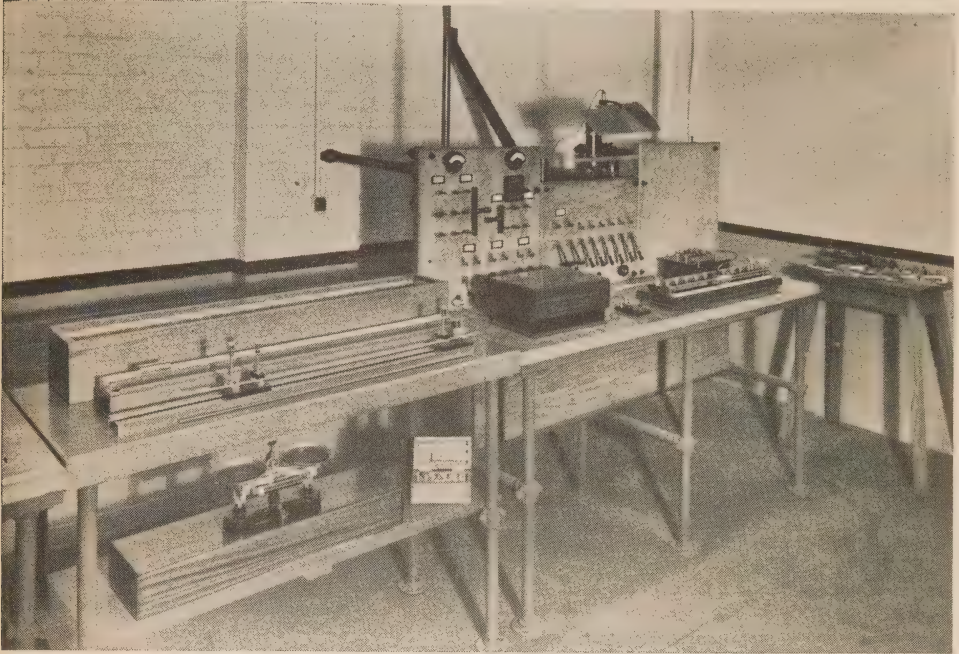
Research

The research work consists chiefly in studies and investigations in both the Laboratory and the field, to determine quality of materials for the Commission's use, and to develop and improve equipment and methods of using electrical power as a means toward its wider application.

Vibration

The studies relating to vibration in power line conductors were carried further and have resulted in changes in the design and arrangement of torsional dampers to give noticeable improvement in damping efficiency. Some work was done correlating damper performance with wind velocity and valuable information was obtained. Additional data on armor rod dampers has resulted from recent tests.

Investigations on the fatigue-resisting properties of galvanized steel ground wire were continued and microscopic examinations of a number of fractures were made. The tests have indicated that higher fatigue limits in the wire accompany higher tensile strength though the ductility is lower. Also, certain methods of galvanizing were found to reduce the endurance strength limit.



KELVIN BRIDGE AND AUXILIARY EQUIPMENT

In Standards Room, used for accurate determination of the electrical conductivity of wire and cable

Rural Applications of Electricity

Installations for the use of electricity in agriculture and floriculture have received considerable attention, chiefly in the matter of soil heating combined with light. The studies produced valuable information on the deleterious effects of the excessive use of these agents. In this work the Laboratories have co-operated with the Ontario Agricultural College at Guelph.

Different types of filters to eliminate infra-red rays have been tested.

The characteristics of a new type of grain grinder and the use of storage steam generators for pasteurizing milk have been investigated.

Electrical Insulation

Studies were directed toward the improvement of insulation of all types by checking materials and modifying designs of insulators, bushings and other forms. A large number of transformer and oil switch bushings were tested, while in service, for partial breakdown. Several defective units were discovered and were reconditioned. This procedure has prevented many ultimate failures in bushings and avoided consequent power interruptions.

Application of Electronics

Important problems in which electronic methods of control may be applied in the operation of the various power systems have been studied through the year. These related chiefly to the use of carrier currents in improving the sensitivity of relay protection systems. Investigations have been started to determine the merits of different methods applicable to existing relay circuits.

Electric Welding

The study of good technique in welding, and of reliable methods of checking finished welds, was continued. Work has proceeded on welding rods and properties of weld metals, particularly in regard to impact characteristics. An investigation of welding by three-phase alternating current has been started.

Masonry Materials

A large amount of work was done on the prevention of deterioration in concrete, and methods are being tried for repairing eroded and otherwise damaged surfaces. Concrete admixtures and the use of slags in concrete aggregates also have been studied.

To fill the need for definite instructions on small concrete jobs, specifications were prepared to cover this class of work. These were completed but have not yet been submitted in final form.

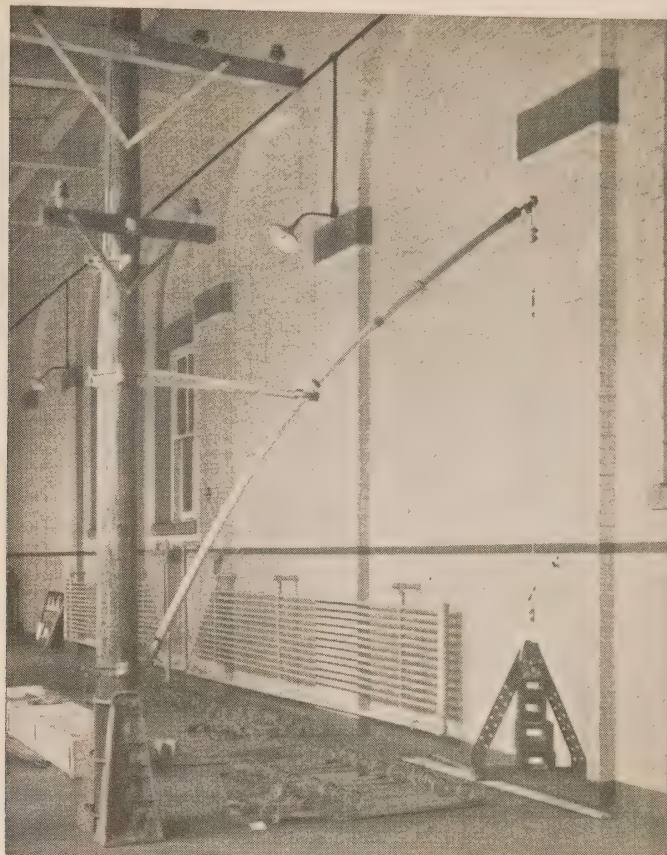
Studies of the effects of movements of water through porous concrete were commenced in order to correlate physical changes in the material with loss in chemical constituents. It is thought that this relation may provide a means of determining the condition of concrete structures so that early remedies may be applied to avoid the necessity for extensive repairs later when deterioration has become more serious. This investigation is being made on cylindrical specimens, placed in water and having air circulation around their upper ends, thus providing vertical movement of the water through the specimen, and evaporation, with consequent surface deposition of soluble constituents from the cement.

Treatment of Wood Poles

Important problems relating to the deterioration and preservation of wood poles have been studied. Field inspections were made on a number of the early groups of sand-creosote collars installed for the purpose of protecting existing poles at the ground line and as a result, refinements in their use have been introduced. An investigation has been carried out in the Laboratory to learn more regarding the movements of water in the butts of poles and to determine whether or not these movements could be used to advantage as a means to introduce water-soluble preservatives into the poles.

A new split-pole reinforcing collar has been considered for old poles and was found to have evident merit in the matter of cost, strength, efficiency, and appearance, especially in comparison with the unsightly stubs now in use.

Specimen poles in test beds at Barrie and Leaside have been under observation for several years to determine the rate of decay. The annual inspection of these poles was made, and also about one hundred and sixty poles on the power lines were examined to check deterioration.



MECHANICAL STRENGTH TESTING

Testing the mechanical strength of new tools used to support energized lines while insulators, pins or cross arms are being changed

Paints

Several paints for special exposure were given accelerated weathering tests. Four houses were painted in order to collect actual field data. A series of tests was made to determine the effect of moisture penetrating the walls of frame buildings where inside humidity was high and the exterior temperature very low.

Petroleum Products

Studies regarding the reconditioning of insulating oils have been continued with very promising results as to a suitable field method being developed. Lubricating and fuel oils have been tested for characteristics to enable selection to be made. Several greases also were tested to determine their film strength, and consistency at various temperatures.

The use of flexible expansion chambers as breathers for certain types of transformers has been studied and some of their characteristics determined.

Water Treatments

Prevention of corrosion in domestic water tanks and cooling systems was investigated and a study made of the effect of operating temperatures and pressures as agents in accelerating deterioration.

Miscellaneous Research

Possible methods and available equipment for controlling loads from remote points have been studied, particularly for water heaters and range loads.

Efficiency tests were made on different types of hot plates. The conductivity of the cement in some units was measured. Range loads have been studied regarding the maximum demand in residences.

Studies of methods of grounding rural distribution circuits were started with a view to improving protection where ground resistances are unusually high.

Recent advances in soil mechanics have been followed with special interest in devices and test procedures for measuring the permeability and consolidation of clays as used in earth dam construction.

The characteristics of different types of insulators were investigated with regard to creation of radio interference, and a number of typical specimens were tested to determine their critical interference voltages.

The difficulties encountered in aluminum cable joints have received attention and studies were commenced toward improvements in methods of making joints.

Investigations of the operation of two new types of cutout have been made, including oscillograph tests to determine the time elapsed in clearing the circuits.

A new type of live line tool has been developed and various strength tests were made.

Investigations of Troubles

A fatal accident in connection with an electrical threshing outfit was investigated and a defect found in the equipment. The results of the inspection and tests of the circuits were presented at the coroner's inquest.

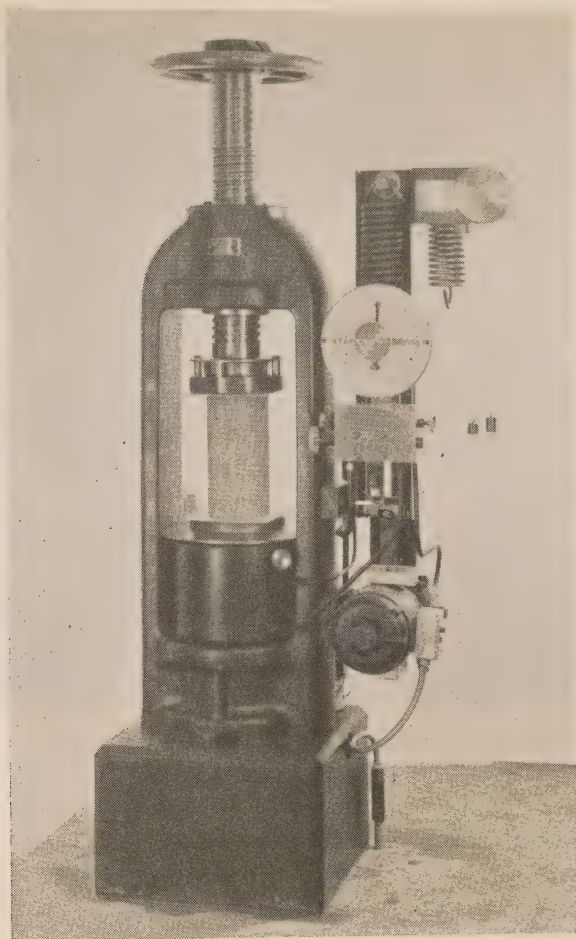
Tests following a complaint in regard to a certain paint showed it to have a false body due to excess of water and to be generally unsuitable for the purpose intended.

Conditions in electrical circuits at a steel plant were investigated to determine the cause of failure of a number of transformers during operation of an electric furnace.

Miscellaneous

New Equipment

The problems studied by the Laboratory staff require the use of various types of equipment for making necessary tests. New devices are added when

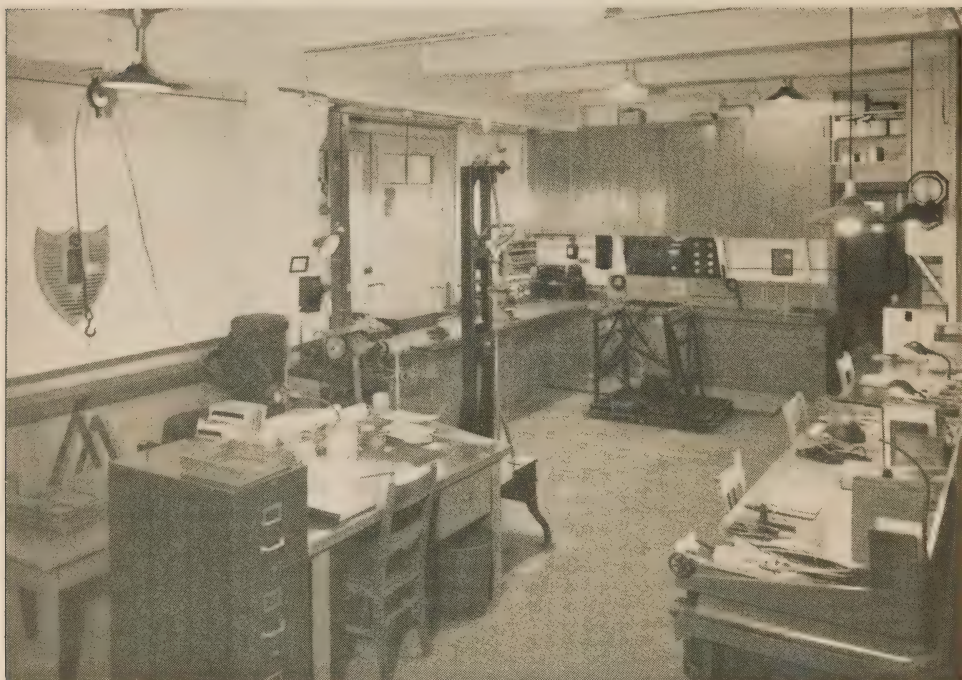


COMPRESSION TESTING MACHINE—HYDRAULIC
For compression testing of concrete, stone, wood and other materials.
Capacity 400,000 lbs.

important investigations lead into new fields, or beyond the capacity of present testing apparatus.

Equipment, known as the "Air-Oxygen Bomb," was installed for the accelerated aging of rubber insulation on wires and cables. Specimens are exposed to air, or oxygen, under pressure and at elevated temperatures for given periods and then submitted to the usual tests for quality. The control and temperature recording apparatus are placed outside the bomb room for convenience and safety.

A hydraulic compression testing machine, of greater capacity than existing equipment, has been installed for testing concrete, stone, wood and other materials, up to a maximum applied pressure of 400,000 lbs. Throughout its entire loading range the machine has a very high accuracy.



WIRE TESTING LABORATORY

Where types of insulation on wires and flexible cords are inspected and tested

To the equipment of the Standards Room, several portable instruments have been added. These include a number of indicating voltmeters and ammeters of the usual types, and also, (a) an electrostatic voltmeter which allows voltage to be read without disturbing circuit conditions, (b) a vacuum-tube voltmeter for measuring high frequency voltages in testing electro-medical apparatus and radio devices, and (c) a six-point temperature recorder which permits continuous records of temperature to be made on a wide variety of apparatus under thermal or other tests. Special equipment, built at the Laboratories, facilitates accurate conductivity tests on wires and cables.

A new portable oscillograph has been ordered and will be a useful instrument in laboratory and field investigations. It is provided with six elements, and connections such that these may be used for potential or current in any arrangement desired. With the long film holder attachment, a record up to fifteen feet in length will be obtained.

A special device for the testing of lubricating oils to the point of breakdown of film strength has been provided. It functions by means of a shaft running in a bearing. Pressures are increased automatically and temperatures and torque are measured as the tests proceed. This provides a very sensitive means of comparing oils.

Specifications and Committee Work

A new specification for bolts was prepared, and revisions were made in the existing specification for installation of the sand creosote collar for preservation of wood poles.

Members of the staff assisted on various engineering committees and attended meetings and conventions of the Canadian Engineering Standards Association, National Research Council, American Association for the Advancement of Science, American Society for Testing Materials, American Concrete Institute, Association of Municipal Electrical Utilities, Engineering Institute of Canada, Canadian Electrical Association and the American Institute of Electrical Engineers.

APPROVALS LABORATORY

Statistical

Comparative figures for tests and inspection carried out by the Approvals Laboratory during the past three years are as follows:

	1936 number	1937 number	1938 number
<i>Applications received</i>			
Approval.....	770	793	817
Special inspections, etc.....	320	395	634
Listing only.....	61	44	64
<i>Factory Inspection Reports</i>			
Wire and Conduit.....	850	573	1,164
All other.....	4,862	4,831	5,193
<i>Labels sold</i>			
Cord, Wire, Cable, etc.....	594,000	765,800	660,100
Conduit.....	900,000	1,101,150	1,000,600
All other.....	1,865,500	2,468,860	2,334,412
Labels sold—Total.....	3,359,500	4,335,810	3,995,112

There has been a natural increase in applications received except that special inspections have doubled in number over those received two years ago. This evidently was a result of the activities of the Sales Enforcement office now attached to the Electrical Inspection department at Toronto.

The increase in factory inspection reports for wire and conduit was due to the fact that the staff assigned to this work was augmented and also there was a larger number of samples obtained from the factories for test.

It will be noted that "Labels sold" has dropped about 10 per cent in all types.

Inspection and Testing of Wire, Cable and Conduit

There were 582 factory inspections of wiring materials, and 1,164 inspection reports were forwarded to manufacturers. The amount of wire, cable and conduit labelled are given in the following table:—

	1936 M-ft.	1937 M-ft.	1938 M-ft.
Insulated wires (including R.C. fixture wire).....	109,230,000	146,750,000	105,875,000
Heat-resisting fixture wire.....		3,350,000	4,275,000
Christmas tree wire.....		1,100,000	5,500,000
Insulated flexible cord.....	30,125,000	33,250,000	28,250,000
Heater cord.....	5,375,000	5,625,000	4,750,000
Tinsel cord.....		1,100,000	500,000
Armoured cable.....	11,560,000	13,300,000	12,900,000
Flexible steel conduit.....	250,000	300,000	350,000
Flexible non-metallic tubing.....	5,000,000	6,250,000	4,250,000
Non-metallic sheathed cable.....	12,350,000	18,450,000	24,500,000
Rigid steel conduit (including elbows and nipples).....	8,500,000	11,000,000	9,900,000

It will be noted that heat-resisting fixture wire, Christmas tree wire and tinsel cord are shown only for two years. Prior to 1937, tinsel cord was labelled with heater cord labels and the other two items with insulated wire labels. The first two of these items show a greater footage inspected than in 1937.

The amounts of flexible steel conduit and non-metallic sheathed cable inspected also are larger than last year, and the increasing popularity of the latter material as a wiring system is strikingly shown.

Applications for Approval

	1936 number	1937 number	1938 number
Motor-driven appliances (including motors)....	214	249	274
Electrically-heated appliances.....	191	163	162
Wiring devices (including temperature regulators).....	111	71	81
Lighting devices (including electric signs).....	115	104	80
Industrial control devices (including transformers, capacitors and rectifiers).....	19	22	28
Wire, cable and cord (including cord sets, and service entrance cable).....	22	14	30
Radio, sound and picture appliances (including devices for the suppression of radio interference).....	34	47	41
Miscellaneous equipment and materials (including medical and dental equipment, welding machines and thermal insulation)	64	115	135



APPROVALS TEST ROOM

Where various types of electrical appliances are examined and tested

In the classified list of applications for approval reports, it will be noted that motor-driven appliances are still being made in an ever-increasing variety. Part of the increase this year is due to the present fad for an electrically-operated shaver; most of those to date are powered with a small motor. Another item which has been submitted in larger quantities is the automatically-controlled coin-operated phonograph. These machines are taking the place of the coin-slot machines, many of which may not now legally be operated in Canada. The continued increase in the number of miscellaneous items submitted means a proportionately larger amount of testing work as there is yet no specification written for such items and the investigation therefore must be carefully carried out.

Additional Staff and Facilities

During the summer three student apprentice engineers were employed in the Approvals Laboratory with worthwhile results. Plans were made and carried out for extending the testing space allotted to this section and most of

the testing work is now centralized on the second floor. A soundproofed test room, which is also provided with an exhaust vent to the chimney, has been built for tests which would be noisy or smoky. With the enlarged testing room, newly painted and equipped with efficient electric fixtures, it has been possible to rearrange the testing staff on a more efficient basis. Testing and office work are now carried on in surroundings more conducive to accurate thinking and speedier work.

PRODUCTION AND SERVICE DEPARTMENT

The operations of the machine shop, carpenter shop and garage, as determined by the value of the work done, showed an increase of approximately 15 per cent over that of the previous year.

The work in the machine shop was similar in nature to that of other years and consisted of the manufacture of line hardware, equipment and tools specially designed and developed for the Commission's requirements. This department also assisted the engineering departments in the development of suitable types of live-line tools and meter test benches.

The policy, adopted in 1935, of regularly and systematically inspecting and maintaining the Commission's fleet of 282 trucks was continued. Twenty-three trucks were overhauled in the garage, and 1,130 individual inspections were made in the field by three travelling inspectors. Fewer trucks were overhauled than in recent years due to the larger number purchased and to the higher standard of maintenance resulting from the systematic field inspection.

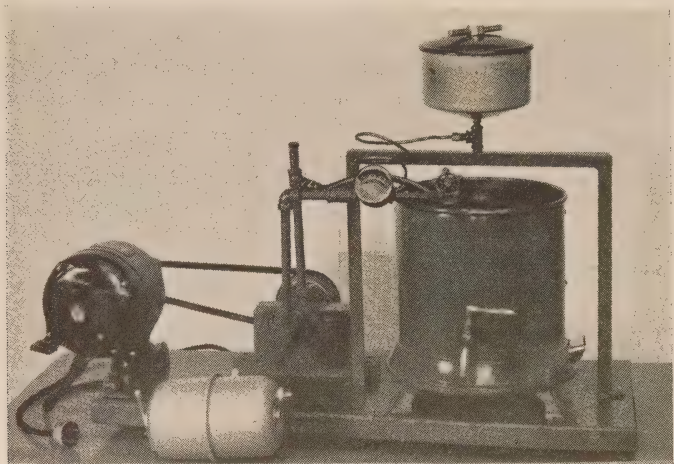
The volume of shop work done by the garage, however, was greater than last year due to the comparatively large amount of equipment overhauled for the Construction department. Fifty-nine pieces of gasoline and diesel driven equipment, such as pumps, compressors, tractors and power units, were thoroughly re-conditioned for the above department.

The formation of a Truck Committee, the members of which were appointed from the Municipal, Operating, Purchasing and Production and Service departments, proved beneficial in co-ordinating the views of the individuals responsible for the operation of the trucks and those who supervise their inspection and maintenance. The suitability and standardization of truck equipment was carefully considered.

PHOTOGRAPHY, PHOTOSTAT AND BLUE PRINTING

The work done in both photography and blue printing shows a large increase over the previous year. There were 734 photograph orders completed, nearly forty per cent more than last year, and 7,472 orders for blue printing, 83,960 prints, an increase of twenty-six per cent. The photographic studio also handled a quantity of special work including enlarging, copying, developing, printing, and the preparation of lantern slides.

The photostat camera has now been in service for a year. A total of 404 orders were handled, which included 3,750 positive prints and 1,180 negative prints. This camera is proving very useful in copying printed matter, drawings, maps, blue prints and other illustrations from books, pamphlets or from



OIL FILTER TESTING EQUIPMENT
For making comparative oil-cleaning tests on car and truck filters

separate sheets. As the orders indicate, positive prints were preferred; these usually require two operations, and, therefore, represent much more work than would be necessary if the preference had been for negative prints.

ELECTRICAL INSPECTION DEPARTMENT

The increasing volume of work handled by this department necessitated that the following offices, which had been amalgamated with others since December 31, 1934, be operated for separate districts:

<i>Office Re-opened</i>	<i>Previously Amalgamated with</i>
Windsor.....	District of Chatham
Sarnia.....	District of Chatham
Peterboro.....	District of Oshawa
Stratford.....	District of Kitchener
Haileybury.....	District of Sudbury
Baysville.....	District of Barrie

In order to reduce travelling expenses and to give more efficient service, the District of Kitchener was reduced in area and a new office established in Owen Sound.

The foregoing changes, together with the increase in work handled, required the appointment of ten additional full-time inspectors, one part-time inspector, four full-time clerks and one part-time clerk.

Statistical

A total of 117,661 permits was issued, an increase of 9.8 per cent over 1937. This is a record, and an increase of 18.9 per cent over the pre-depression high point which occurred in 1928. There were 203,800 inspections made, an increase of 19.8 per cent over 1937.



The accompanying graph shows the number of permits issued and inspections made since 1921.

Fires Attributed to Electricity

Among the numerous fires investigated during the year and reported as having been caused through electrical wiring or equipment, twelve were traced to that source, as follows:

Short-circuit in armoured cable.....	4
Short-circuit in non-metallic sheathed cable.....	1
Short-circuit at unused outlet.....	1
Iron left in contact with combustible material.....	1
High-tension sign cable in contact with woodwork.....	1
Portable lamp in contact with combustible material.....	1
Transformers not properly grounded.....	1
Joint in flexible cord.....	1
Explosion in switch of gasoline dispensing device.....	1

It is possible that other fires may have had their origin in electrical circuits or appliances, although the evidence available would not fully substantiate such a conclusion.

Electrocutions and Fatal Accidents

Seven persons were electrocuted through coming into contact with electric wiring or equipment under the jurisdiction of this department, as compared with five person in 1937. A brief summary of these accidents is given below:

Man electrocuted while attempting to cut a cable with a pair of bolt cutters. The line, presumed to be dead, was alive due to a feed-back through a bank of transformers. Circuit voltage, 550 volts.

Boy electrocuted while trying to locate non-existant trouble in a passenger elevator control panel. Circuit voltage, 550 volts.

Man electrocuted when he touched an ungrounded transformer which was being used on his farm by a threshing syndicate. Circuit voltage, 4,000 volts.

Man electrocuted while standing in water testing the vacuum at the intake pipe of an electrically operated private water supply system. The electric motor was defective and its frame was not grounded. Circuit voltage, 115 volts.

Boy electrocuted while attempting to place a toy windmill on the top of a pole which carried wires supplying current to a pump motor on his father's farm. He came in contact with a live circuit wire and a grounded conduit. Circuit voltage, 220 volts.

Boy electrocuted when touching an ungrounded pipe-threading machine which had become alive through a breakdown in the insulation of electric wiring attached to the apparatus. Circuit voltage, 220 volts.

Woman electrocuted when using a portable electric heater in the bathroom. The cord supplying current to the heater was defective. Circuit voltage, 115 volts.

Nine persons were involved in accidents which did not prove fatal. These may be summarized as follows:

Electrician received superficial burns about the eyes while testing a 550 volt circuit with a 220 volt test lamp.

Two electricians were severely burned when operating disconnecting switches underload.

Two electricians received burns when a defective compensator blew up.

Woman received slight burns when the strain spring on an ironing cord short-circuited open-type cutouts.

Man received severe shock and burns while grasping a 550 volt service wire to balance himself on an upstairs verandah railing.

Man received severe burns while using a screw driver to remove a 60 ampere 600 volt fuse from a service switch.

Electrician received a severe shock, and injuries from resulting fall, when he attempted to repair neon sign wiring while the sign was alive.

Four cattle were electrocuted through contact with live wiring or charged apparatus, as follows:

Bull electrocuted while tied in stanchion which had become alive due to a defective extension cord being in contact with a private piping system that supplied water to the stanchion drinking fountains. Voltage of circuit, 115 volts.

Three cows were electrocuted when they came into contact with a 2,200 volt line which had fallen due to the poles rotting through at the base.

Ground Tests

There was a total of 6,027 ground tests made in isolated communities and rural districts, an increase of 646, or 12 per cent over 1937.

The Canadian Electrical Code

Several members of the Electrical Inspection and Laboratory staffs have rendered assistance in revising sections of the Canadian Electrical Code, giving a great deal of time to this work.

On Part I of the Code—Electrical Installations—twenty-two meetings were attended. Revisions were considered and also methods of suppressing radio interference. The minutes of these meetings were prepared and circulated.

On Part II—Approval Specifications for Electrical Equipment—there were fifteen meetings, attended by a total of 29 of the Commission's engineers and inspectors, and the minutes were prepared and circulated. Four specifications were issued, and one earlier specification was revised and re-issued. There now have been forty-seven specifications issued by the Canadian Electrical Standards Association, and fourteen more are either advancing toward being issued or in the course of being re-issued.

Infractions of Regulations

Eighty-six persons and companies were prosecuted for various infractions of the rules and regulations governing the sale and installation of electrical equipment and material, a total of fifty-seven prosecutions more than in 1937. This increase was due to additions to the staff of the department, which allowed more time to be devoted to the enforcement of regulations than had been possible in the past.

Safety Rules for Electrical Test Floors

As a result of the inspection of factory electrical testing departments, copies of a set of rules toward safety in such work were forwarded to a number of manufacturers for their trial and criticism.

SECTION VIII

ELECTRIC RAILWAYS

THE HAMILTON STREET RAILWAY COMPANY

A Subsidiary of The Hydro-Electric Power Commission of Ontario—
Niagara System

Gross earnings on the Hamilton Street Railway for the year 1938 decreased 2.96 per cent. Operating expenses (including taxes) decreased 6.31 per cent. The result was an increase in net earnings of \$29,287. The improvement in net earnings was due to a reduction in power rates.

The balance sheet and income account are given at the end of Section IX.

Operating results are summarized and compared in the following tabulation and chart.

HAMILTON STREET RAILWAY

Comparative Operating Statistics

	Tramways \$	1937 Buses \$	Total \$	Tramways \$	1938 Buses \$	Total \$
Operating revenues:						
Transportation.....	880,086	224,756	1,104,842	840,588	231,602	1,072,190
Other operations.....	5,140	709	5,849	4,854	825	5,679
Operating revenue.....	885,226	225,465	1,110,691	845,442	232,427	1,077,869
Operating expenses.....	805,901	178,490	984,391	735,502	186,780	922,282
Net revenue for year.....	79,325	46,975	126,300	109,940	45,647	155,587
Appropriation for dividend.....			122,969			122,969
Appropriation for ticket reserve.....			3,331			nil
Surplus for year.....			nil			32,618

	1937	1938
Route-miles:		
Tramway.....	28.06	28.06
Bus.....	17.58	17.58
Total.....	45.64	45.64
Track-miles.....	42.80	42.80
Passenger cars operated:		
Passenger cars.....	72	72
Passenger buses.....	32	32
Car-miles operated:		
Passenger cars.....	2,769,270	2,722,581
Passenger buses.....	1,332,572	1,330,301
Car-hours operated:		
Passenger cars.....	297,903	291,650
Passenger buses.....	108,303	108,291
Passengers carried.....	21,277,756	20,007,750
Percentage of transfer passengers to revenue passengers.....	24.3%	23.9%

THE HAMILTON STREET RAILWAY COMPANY OPERATING STATISTICS



GUELPH RADIAL RAILWAY

Operated by The Hydro-Electric Power Commission of Ontario for
The City of Guelph

There was no major commitment on capital account during the year. Essential maintenance of way and structures, and equipment was performed.

Gross earnings for the year 1938 increased 0.46 per cent. Operating expenses (including taxes) decreased 6.24 per cent. The result was a decrease in net operating loss of \$4,980. The improvement was due to the savings effected by the use of modern gasoline buses in place of street cars.

The balance sheet and income account are given at the end of Section IX.

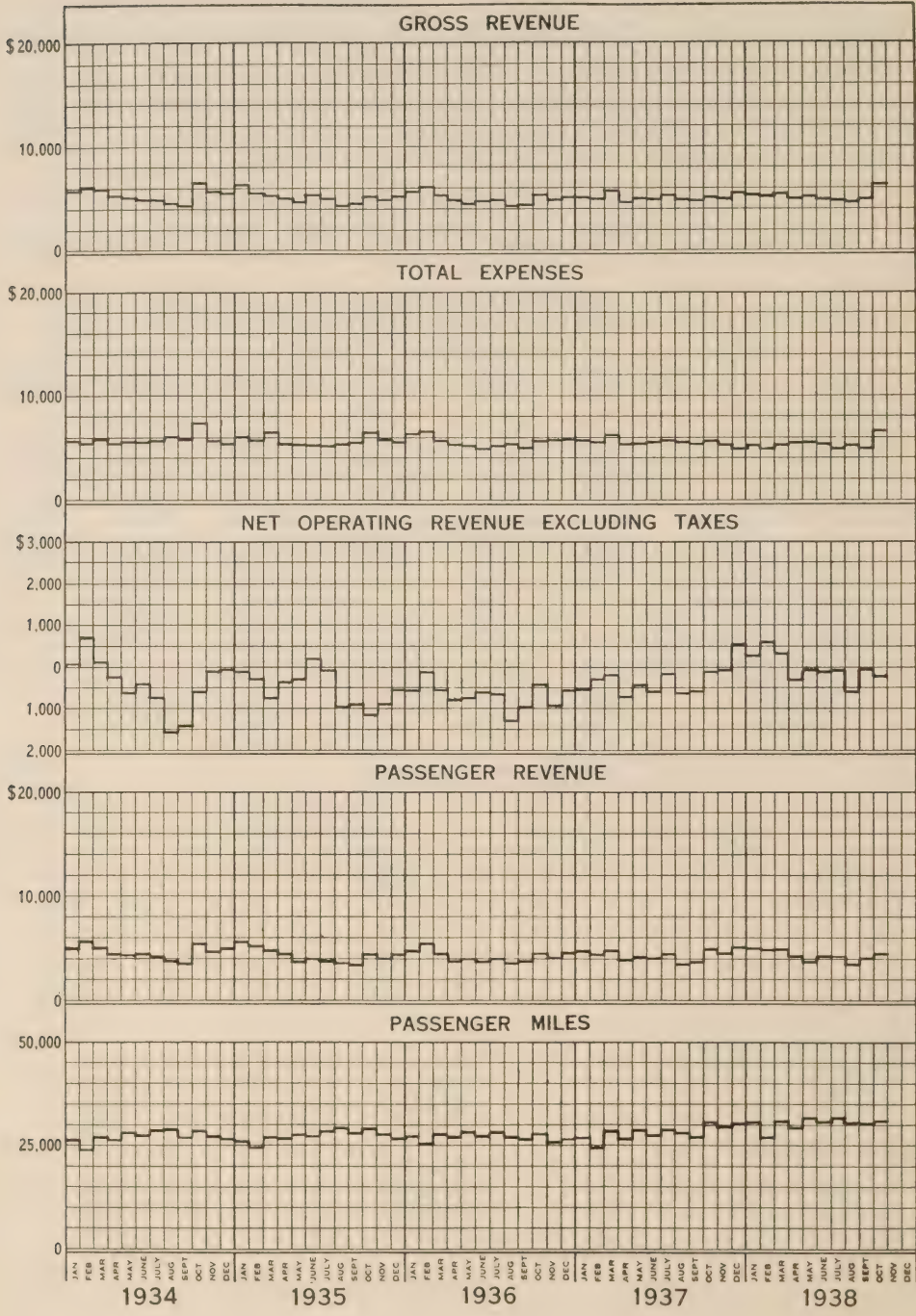
Operating results are summarized in the following tabulation and chart.

GUELPH RADIAL RAILWAY
Comparative Operating Statistics

	Tramways \$	1937 Buses \$	Total \$	Freight \$	1938 Buses \$	Total \$
Operating revenues:						
Transportation.....	42,621	19,751	62,372	8,849	53,625	62,474
Other operations.....	474	59	533	267	451	718
Operating revenue.....	43,095	19,810	62,905	9,116	54,076	63,192
Operating expenses.....	50,645	24,536	75,181	11,302	59,186	70,488
Net operating loss.....	7,550	4,726	12,276	2,186	5,110	7,296
Net operating loss as above.....		12,276			7,296	
Net interest charges.....		11,687			12,333	
Provision for sinking fund.....		3,921			3,159	
Provision for instalments under purchase agreement:						
Principal.....	9,978			10,432		
Interest.....	1,722	11,700		1,268	11,700	
Adjustment of miscellaneous reserves not required.....						883
Loss for year charged to the City of Guelph.....			39,584			33,605
			39,584			34,488
Route-miles:		1937			1938	
Tramways.....		6.41			*4.00	
Bus.....		5.99			13.90	
Total.....		12.40			17.90	
Track-miles.....		9.06			4	
Passenger cars operated.....		7			nil	
Passenger buses operated.....		4			9	
Car-miles operated:						
Passenger cars.....		198,770			nil	
Passenger buses.....		129,195			367,533	
Freight locomotive.....		11,298			10,155	
Car-hours operated:						
Passenger cars.....		25,065			nil	
Passenger buses.....		16,290			41,762	
Freight locomotive.....		2,352			2,166	
Passengers carried.....		1,159,572			1,232,671	
Percentage of transfer passengers to revenue passengers.....		26.71%			25.37%	

*Freight only.

GUELPH RADIAL RAILWAY—OPERATING STATISTICS



SECTION IX

FINANCIAL STATEMENTS

Relating to

Properties Operated by The Hydro-Electric Power Commission in the
Niagara, Georgian Bay, Eastern Ontario and Thunder Bay Systems
on Behalf of Municipalities

and to

Northern Ontario Properties Held and Operated by the Commission
in Trust for the Province of Ontario

The Hamilton Street Railway Company—A Subsidiary of
Niagara System, and

Guelph Radial Railway—Operated by the Commission
on Behalf of the City of Guelph

IN this section of the Report financial statements relating to the activities of The Hydro-Electric Power Commission, segregated into certain distinct divisions, are presented. The first division relates to those activities on behalf of the co-operative municipalities, which are partners in the main "Hydro" undertaking comprising the Niagara, Georgian Bay, Eastern Ontario and Thunder Bay systems and certain minor properties. The second relates to the administration of the Northern Ontario Properties which are held and operated by the Commission in trust for the Province of Ontario. The third and fourth relate to The Hamilton Street Railway Company, a subsidiary of the Niagara system, and to the Guelph Radial Railway operated by the Commission for the city of Guelph.

Co-operative Systems

In the Foreword to this Report a brief reference is made to the basic principle governing the operations of the "Hydro" undertaking in supplying electrical service at cost, and to the *wholesale* and *retail* aspects of the work. A description is also given of the several systems into which the partner municipalities are co-ordinated for securing common action with respect to power supplies, through the medium of The Hydro-Electric Power Commission which, under The Power Commission Act, functions as their Trustee.

Although for the purpose of financial administration the various systems are separate units, there is a similarity of procedure with respect to their operation which enables certain financial statements, as for example the various reserves, to be co-ordinated and presented in summary tables.

The first set of tables in Section IX gives collective results for the co-operative activities related to the four systems and minor associated properties. These tables include a **balance sheet; a statement of operation and cost distribution** as detailed in the "cost of power" tables referred to below; schedules respecting **fixed assets, capital expenditures and grants—rural power districts; power accounts receivable, funded debt issued or assumed, depreciation and obsolescence reserves, contingencies and stabilization of rates reserves, sinking fund reserves** and the account with the Provincial Treasurer of the Province of Ontario.

The tables which follow these general financial statements relate more particularly to the individual municipality's aspects of the wholesale activities of the Commission and for each system show the **cost of power** to the individual municipal utilities, the **credit or debit** adjustment that is made at the end of the fiscal year, and the **sinking fund** equity that has been acquired by the individual municipality. There is also included for each system a **rural operating** statement.

The charges for power supplied by the Commission to the various municipalities vary with the amounts of power used, the distances from the sources of supply and other factors. The entire capital cost of the various power developments and transmission systems is annually allocated to the connected municipalities and other wholesale power consumers, according to the relative use made of the lines and equipment. Each municipality assumes responsibility for that portion of property employed in providing and transmitting power for its use, together with such expenses—including the cost of purchased power if any—as are incidental to the provision and delivery of its wholesale power. The annual expenses and the appropriations for reserves are provided out of revenues collected in respect of such power, through the medium of power bills rendered by the Commission. The municipalities are billed at an estimated interim rate each month during the year and credit or debit adjustment is made at the end of the year,* when the Commission's books are closed and the actual cost payable by each municipality for power taken has been determined.

Included in the municipality's remittance to the Commission for the wholesale cost of power—besides such current expenses as those for operation and maintenance of plant, for administration, and for interest on capital—are sums required to build up reserves for sinking fund, for depreciation and obsolescence, for contingencies and for stabilization of rates. The first-mentioned reserve, namely, sinking fund, is being created on a 40-year basis for the purpose of liquidating capital liabilities. The other reserves are, respectively, being created to provide funds for the replacing or rebuilding of plant as it wears out, to enable the undertaking to replace existing equipment with

*The financial year for the Commission ends on October 31. The financial year for the municipal electric utilities, however, ends on December 31, and the municipal accounts are made up to this date, and so recorded in Section X.

improved equipment as it becomes available through advances in science and invention, and to meet unforeseen expenses which from time to time may arise.

The ultimate source of all revenue to meet costs—whether for the larger operations of The Hydro-Electric Power Commission or for the smaller local operations of the municipalities—is, of course, the consumer. Out of the total revenue collected by each municipal utility from its consumers for service supplied, only an amount sufficient to pay the wholesale cost of power supplied by the Commission as outlined above is remitted to the Commission; the balance of municipal electrical revenue is retained to pay for the expense incurred by the local utility in distributing the electrical energy to its consumers.

Tabular Data

The following comments relate to the tabular data presented:

Balance Sheet.—The first tabular statement given in Section IX is a balance sheet showing the assets, and the liabilities of the several co-operative systems.

Statement of Operation and Cost Distributions.—This statement is a summary of operating expenses and fixed charges as shown in the “cost of power” tables relating to the individual systems as referred to more particularly below.

Fixed Assets.—Details are given concerning the various fixed assets of each system and of the miscellaneous properties, whilst similar details are shown of the capital expenditures for the year ended October 31, 1938.

Capital Expenditures and Grants—Rural Power Districts.—This schedule gives summary information respecting the total capital expenditures on rural power districts and grants-in-aid of construction paid or payable by the Province with respect to such rural districts.

Power Accounts Receivable.—This schedule sets forth the amounts collectible from all classes of power consumers and includes the annual adjustment figures from the “credit or charge” statements for municipalities. The main details of those debit balances three months or more overdue are stated.

Funded Debt Issued or Assumed.—This schedule presents a complete list of the securities issued or assumed by the Commission on account of the several systems, the Northern Ontario Properties and the Guelph Radial Railway. It should be noted that where securities have been issued to finance properties operated for others, this liability is only shown in memorandum form on the balance sheet of the Commission, whilst the direct liability is shown on the balance sheets of the Northern Ontario Properties and the Guelph Radial Railway.

**Depreciation and Obsolescence Reserves,
Contingencies Reserves and**

Stabilization of Rates Reserves.—These schedules show the provisions made to, the expenditures from, and the balance to the credit of, these reserves for each of the systems and other properties included in the power undertakings operated on a cost basis.

Sinking Fund Reserves.—This schedule summarizes the appropriation of principal and interest with respect to these reserves for each of the systems and certain minor properties.

Account with the Provincial Treasurer.—This schedule lists, both for the Niagara and other systems operated on a cost basis, and for the Northern Ontario Properties which are held and operated by the Commission in trust for the Province, the advances from the Province of Ontario and the repayments which have been applied to reduce this liability. It should be noted that Provincial advances to finance Northern Ontario Properties are shown in memorandum form only on the balance sheet of the Commission as the direct liability is carried on the Northern Ontario Properties' balance sheet.

Following these statements, which are common to all systems, there are given for each of the individual co-operative systems four tabular statements as follows:

Cost of Power statement, which shows the apportionment to each municipality of the items of cost summarized in the operating account, as well as the apportionment of the fixed assets in service listed in the balance sheet and the amount of power taken by each municipality. It should be noted that the cost of power given in this table is the wholesale cost—that is, the cost which the Commission receives for the power delivered from the main transformer stations serving the local utility. In the case of municipal electrical utilities not directly administered by the Commission, the respective costs of power appear in Statement "B" of Section X as "power purchased".

Credit or Charge statement, which shows the adjustments made in order to bring the amounts paid by each municipal electric utility to the actual cost of service. The credits and charges for the municipal electric utilities are taken up and given effect to in the accounts of "Hydro" utilities before their operating records of each year are closed.

Sinking Fund statement, which gives the accumulated total of the amounts paid by each municipality as part of the cost of power together with its proportionate share of other sinking funds.

Rural Operating statement, which summarizes for the rural power districts of the system the various items of cost, and the revenues received, in connection with the distribution of electrical energy to rural consumers.

Northern Ontario Properties

The statements and schedules respecting these properties which are held and operated by the Commission in trust for the Province of Ontario include the balance sheet, operating and income accounts, schedules of fixed assets, depreciation and obsolescence reserves, contingencies reserves, and sinking fund reserves. These schedules are similar in form to the corresponding schedules relating to the co-operative systems.

The Hamilton Street Railway Company

This is a subsidiary of the Niagara system of the Commission. A balance sheet and operating and income account are presented.

Guelph Radial Railway

This railway is operated by the Commission on behalf of the city of Guelph. A balance sheet and operating and income account are presented.

Municipal Utilities

All municipal "Hydro" utilities have current expenses to meet similar to the expenses of the Commission and have adopted the same financial procedure with respect to their operations. In other words, concurrently with the creation of funds to liquidate their debt to the Commission and to provide the necessary reserves to protect generating, transforming and transmission systems, the municipalities are taking similar action with respect to their local "Hydro" utility systems.

The balance sheets, operating reports and statistical data appearing in Section X, under the heading of "Municipal Accounts", relate to the operation of local distribution systems by individual municipalities which have contracted with the Commission for their supply of electrical energy. To this section there is an explanatory introduction to which the reader is specially referred.

Auditing of Accounts

The accounts of The Hydro-Electric Power Commission of Ontario are verified by auditors specially appointed by the Provincial Government. The accounts of the "Hydro" utility of each individual municipality are prepared according to approved and standard practice and The Public Utilities Act requires that they shall be audited by the auditors of the municipal corporation.

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

FINANCIAL ACCOUNTS

For the Year Ended October 31, 1938

Relating to Properties operated on a "Cost Basis" for the Co-operating
Municipalities and Rural Power Districts which are supplied with
Electrical Power and Services from the following Properties:

Niagara System	Manitoulin Rural Power District
Georgian Bay System	Nipissing Rural Power Districts
Eastern Ontario System	Bonnechere Water Storage Works
Thunder Bay System	Service and Administrative Buildings and Equipment

STATEMENTS

Balance Sheet as at October 31, 1938

Statement of Operations and Cost of Power for the Year ended October
31, 1938

Schedules supporting the Balance Sheet as at October 31, 1938:—

Fixed Assets—By Systems and Properties

Capital Expenditures and Grants—Rural Power Districts

Power Accounts Receivable

Funded Debt Issued or Assumed

Depreciation and Obsolescence Reserves

Contingencies Reserves

Stabilization of Rates Reserves

Sinking Fund Reserves

Account with the Provincial Treasurer of the Province of Ontario

Statements for Municipalities Receiving Power under Cost Contracts

THE HYDRO-ELECTRIC POWER

BALANCE SHEET AS AT OCTOBER 31, 1938,

Niagara System

Georgian Bay System

Eastern Ontario System

ASSETS

FIXED ASSETS:

Niagara system.....	\$221,046,213.05
Georgian Bay system.....	12,713,543.33
Eastern Ontario system.....	24,899,689.37
Thunder Bay system.....	19,806,041.24
Non-System properties.....	283,306.79
Service and administrative buildings and equipment.....	3,207,839.58

\$281,956,633.36

Less—Grants-in-aid of construction:

Province of Ontario—for rural power districts.....	14,149,666.86
--	---------------

\$267,806,966.50

PRELIMINARY EXPENDITURES—Inter-System:

St. Lawrence River surveys—1925 to 1928.....	\$ 734,873.31
Ottawa River surveys and undeveloped power sites.....	346,621.53
Ogoki River surveys.....	100,807.83

1,182,302.67

INVESTMENTS:

Toronto, Pt. Credit, St. Catharines Radial Railways—secured.....	\$ 2,101,867.40
The Hamilton Street Railway Company—Capital stock.....	3,000,000.00
City of Toronto debentures (Toronto and York Radial)—Collateral.....	2,375,000.00
Other investments.....	12,577.00

7,489,444.40

CURRENT ASSETS:

Cash in banks.....	\$ 6,288,775.28
Employees' working funds.....	71,038.14
Sundry accounts receivable.....	598,635.22
Power accounts receivable.....	3,891,507.50
Rural power district grants receivable.....	1,124,553.76
Interest accrued.....	655,802.47
Consumers' and contractors' deposits:	
Cash deposits.....	\$ 53,442.83
Securities—at par value.....	519,200.00

Prepayments.....	572,642.83
	138,106.27

13,341,066.47

INVENTORIES:

Construction and maintenance materials and supplies.....	\$ 2,146,998.92
Construction and maintenance tools and equipment.....	852,395.57
Office equipment.....	85,960.52

3,085,355.01

DEFERRED ASSETS:

Agreements and mortgages.....	\$ 980,135.25
Rural district loans.....	98,441.97
Work in progress—deferred work orders.....	42,072.46

1,120,649.68

UNAMORTIZED DISCOUNT ON DEBENTURES

466,158.67

RESERVE FUNDS:

Investments—Specific reserves.....	\$ 42,594,471.78
Employers' Liability Insurance Fund:	
Investments.....	\$978,148.24
Deposits with the Workmen's Compensation Board.....	36,194.65

Pension Fund, investments.....	1,014,342.89
	5,562,247.07

49,171,061.74

SINKING FUNDS:

Investments.....	\$ 5,609,732.30
Deposits in the hands of trustees—including temporary investments.....	339,487.54

5,949,219.84

\$349,612,224.98

COMMISSION OF ONTARIO

IN WHICH THE FOLLOWING PROPERTIES ARE INCLUDED:

Thunder Bay System Local Distribution Systems Rural Power Districts

LIABILITIES AND RESERVES

LONG-TERM LIABILITIES:

Funded Debt Issued or Assumed.....	\$119,974,469.58	
Less—Debentures issued to finance properties operated for others:		
Northern Ontario Properties.....	\$ 29,500,000.00	
Guelph Radial Railway.....	300,000.00	
	<u>29,800,000.00</u>	
		\$ 90,174,469.58
Advances from the Province of Ontario.....	\$148,714,776.93	
Less—Advances for Northern Ontario Properties.....	6,370,637.25	
	<u>142,344,139.68</u>	
Purchase Agreements:		
Thunder Bay system transmission lines.....	173,021.20	
		<u>\$232,691,630.46</u>

CURRENT LIABILITIES:

Bank of Montreal—demand loan—secured.....	\$ 500,000.00	
Accounts and payrolls payable.....	\$ 1,966,154.43	
Less—Amount for Northern Ontario Properties.....	137,801.94	
	<u>1,828,352.49</u>	
Matured debentures unclaimed—due 1933.....	500.00	
Northern Ontario Properties—Current account.....	2,444,261.46	
The Hamilton Street Railway Co.—Current account.....	165,992.88	
Power accounts—credit balances.....	63,927.08	
Advances from the Province of Ontario for rural loans.....	104,767.93	
Consumers' and contractors' deposits.....	591,066.47	
Debenture interest accrued.....	991,480.51	
Miscellaneous interest accrued.....	5,722.92	
Miscellaneous accruals.....	58,073.49	
		<u>6,754,145.23</u>
RURAL POWER DISTRICTS—Rates Suspense, Net.....		1,153,841.97
UNAMORTIZED PREMIUM ON DEBENTURES.....		149,139.79

RESERVES:

Depreciation and obsolescence.....	\$ 40,191,872.36	
Contingencies.....	8,460,619.54	
Stabilization of rates.....	5,184,077.45	
Fire insurance.....	72,441.34	
	<u>\$ 53,909,010.69</u>	
Employers' liability insurance.....	1,018,906.42	
Pension fund.....	5,569,249.42	
Miscellaneous.....	454,453.53	
		<u>60,951,620.06</u>

SINKING FUND RESERVE:

Represented by:		
Funded debt retired through sinking funds.....	\$ 14,722,209.46	
Provincial advances retired through sinking funds.....	27,261,098.42	
Available balance.....	5,928,539.59	
		<u>47,911,847.47</u>
		<u>\$349,612,224.98</u>

Auditors' Certificate

We have examined the Accounts of The Hydro-Electric Power Commission of Ontario for the year ended the 31st October, 1938, and report that in our opinion the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Commission's affairs at the 31st October, 1938, according to the best of our information and the explanations given to us and as shown by the books and records of the Commission. We have obtained all the information and explanations we have required.

OSCAR HUDSON AND CO.,

Dated at Toronto, Ontario,

Chartered Accountants,

31st March, 1939

Auditors.

THE HYDRO-ELECTRIC POWER
Statement of Operations and Cost of Power for Each

	Cost of power purchased	Operating, maintenance and admin- istrative expenses	Interest	Provision for depreciation and obsolescence	Provision for contingencies
NIAGARA SYSTEM:	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Municipalities.....	4,123,295.04	2,598,883.88	6,619,074.02	1,009,103.09	438,854.45
Rural power districts.....	231,836.31	230,800.44	436,270.51	80,647.12	30,900.47
Companies.....	1,403,991.26	894,409.45	1,991,289.80	281,537.43	129,096.42
Local distribution systems.....	27,788.80	73,051.41	62,188.42	11,695.77	5,390.34
Total.....	5,786,911.41	3,797,145.18	9,108,822.75	1,382,983.41	604,241.68
GEORGIAN BAY SYSTEM:					
Municipalities.....	39,397.29	279,767.02	260,434.49	78,935.83	22,047.66
Rural power districts.....	11,473.96	55,836.68	54,688.53	17,383.02	4,727.89
Companies.....	1,902.33	11,397.39	12,166.41	3,780.79	1,041.00
Local distribution systems.....	875.63	13,059.22	9,726.04	3,658.41	1,402.86
Total.....	53,649.21	360,060.31	337,015.47	103,758.05	29,219.41
EASTERN ONTARIO SYSTEM:					
Municipalities.....	673,597.63	484,063.41	583,592.47	139,990.04	45,213.92
Rural power districts.....	54,683.20	59,321.95	72,598.51	19,547.60	5,853.77
Companies.....	155,259.23	127,978.27	163,318.92	39,676.82	13,388.69
Local elec. dist. sys.....	12,771.03	49,246.65	26,341.13	8,810.99	1,387.62
Local gas dist. sys.....		14,995.01	1,184.38		
Pulp mill.....	8,922.88	28,296.99	12,734.95	2,006.47	783.95
Total.....	905,233.97	763,902.28	859,770.36	210,031.92	66,627.95
THUNDER BAY SYSTEM:					
Municipalities.....		190,574.59	520,937.45	100,054.31	53,113.08
Rural power districts.....		1,895.55	3,216.48	652.82	329.79
Companies and local distribution systems.....		157,523.08	367,828.97	57,630.27	32,409.50
Total.....		349,993.22	891,982.90	158,337.40	85,852.37
COST OF DISTRIBUTION OF POWER WITHIN R.P.D.'s:					
Niagara system R.P.D.....	*1,113,512.31	642,083.61	402,716.64	175,497.98	
Georgian Bay sys. R.P.D.....	*171,999.83	110,990.34	67,455.23	30,063.24	
Eastern Ontariosys. R.P.D.....	*242,638.57	174,693.02	119,796.53	51,788.09	
Thunder Bay sys. R.P.D.....	*6,693.80	5,926.75	3,785.44	1,652.62	
Manitoulin R.P.D.....	4,776.54	2,579.39	2,272.00	809.55	
Nipissing R.P.D.....	8,032.46	3,012.28	2,121.78	715.38	
Total.....	1,547,653.51	939,285.39	598,147.62	260,526.86	
RURAL LINES OPERATED BY MUNICIPALITIES:					
Niagara rural lines.....			845.80	401.17	200.59
Georgian Bay rural lines.....			155.66	56.74	28.37
Total.....			1,001.46	457.91	228.96
Total for all systems.....	8,293,448.10	6,210,386.38	11,796,740.56	2,116,095.55	786,170.37
R.P.D.'s eliminations.....	*(1,534,844.51)				
Net total for all systems....	6,758,603.59	6,210,386.38	11,796,740.56	2,116,095.55	786,170.37
GRAND SUMMARY					
Niagara system.....	5,786,911.41	4,439,228.79	9,512,385.19	1,558,882.56	604,442.27
Georgian Bay system.....	53,649.21	471,050.65	404,626.36	133,878.03	29,247.78
Eastern Ontario system.....	905,233.97	938,595.30	979,566.89	261,820.01	66,627.95
Thunder Bay system.....		355,919.97	895,768.34	159,990.02	85,852.37
Non-System properties....	12,809.00	5,591.67	4,393.78	1,524.93	
Total.....	6,758,603.59	6,210,386.38	11,796,740.56	2,116,095.55	786,170.37

COMMISSION OF ONTARIO

System for the Year Ended October 31, 1938

Provision for stabiliza- tion of rates	Provision for sinking fund	Operating balances in respect of power sold to private companies	Total cost	Amount received from (or billed against) municipalities and other customers	Amounts remaining to be credited or charged municipalities	
					Credited	Charged
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	1,531,641.57	37,279.07	16,358,131.12	16,099,817.83	250,331.25	508,644.54
.....	100,952.15	2,105.31	*1,113,512.31	*1,113,512.31	.....	.....
.....	460,780.82	(32,216.50)	5,128,888.68	5,128,888.68	.....	.....
.....	14,412.22	(7,167.88)	187,359.08	187,359.08	.....	.....
.....	2,107,786.76	.....	22,787,891.19	22,529,577.90	250,331.25	508,644.54
72,243.90	63,745.96	499.19	817,071.34	904,056.78	87,062.70	77.26
14,404.20	13,385.99	99.56	*171,999.83	*171,999.83	.....	.....
.....	2,977.94	(3,045.73)	30,220.13	30,220.13	.....	.....
.....	2,380.63	2,446.98	33,549.77	33,549.77	.....	.....
86,648.10	82,490.52	.....	1,052,841.07	1,139,826.51	87,062.70	77.26
73,280.80	134,832.64	50,377.19	2,184,948.10	2,278,105.58	96,491.23	3,333.75
8,213.80	16,773.14	5,646.60	*242,638.57	*242,638.57	.....	.....
.....	44,515.52	(42,154.89)	501,982.56	501,982.56	.....	.....
.....	3,886.72	12,565.33	115,009.47	115,009.47	.....	.....
.....	.....	( 3,287.94)	12,891.45	12,891.45	.....	.....
.....	2,383.67	(23,146.29)	31,982.62	31,982.62	.....	.....
81,494.60	202,391.69	.....	3,089,452.77	3,182,610.25	96,491.23	3,333.75
.....	119,740.99	(24,690.80)	959,729.62	944,530.30	823.16	16,022.48
.....	739.32	(140.16)	*6,693.80	*6,693.80	.....	.....
.....	162,090.62	24,830.96	802,313.40	802,313.40	.....	.....
.....	282,570.93	.....	1,768,736.82	1,753,537.50	823.16	16,022.48
.....	93,187.90	.....	2,426,998.44	2,513,583.83	R. P. D. 86,585.39	Balances
.....	16,510.85	.....	397,019.49	365,266.27	.....	31,753.22
.....	27,677.68	.....	616,593.89	624,335.18	7,741.29	.....
.....	870.10	.....	18,928.71	18,029.54	.....	899.17
.....	458.13	.....	10,895.61	10,599.58	.....	296.03
.....	380.56	.....	14,262.46	16,085.01	1,822.55	.....
.....	139,085.22	.....	3,484,698.60	3,547,899.41	96,149.23	32,948.42
.....	361.05	.....	1,808.61	1,808.61	.....	.....
.....	51.07	.....	291.84	291.84	.....	.....
.....	412.12	.....	2,100.45	2,100.45	.....	.....
168,142.70	2,814,737.24	.....	32,185,720.90	32,155,552.02	530,857.57	561,026.45
.....	.....	.....	(*1,534,844.51)	(*1,534,844.51)	.....	.....
168,142.70	2,814,737.24	.....	30,650,876.39	30,620,707.51	530,857.57	561,026.45
.....	2,201,335.71	.....	24,103,185.93	23,931,458.03	336,916.64	508,644.54
86,648.10	99,052.44	.....	1,278,152.57	1,333,384.79	87,062.70	31,830.48
81,494.60	230,069.37	.....	3,463,408.09	3,564,306.86	104,232.52	3,333.75
.....	283,441.03	.....	1,780,971.73	1,764,873.24	823.16	16,921.65
.....	838.69	.....	25,158.07	26,684.59	1,822.55	296.03
168,142.70	2,814,737.24	.....	30,650,876.39	30,620,707.51	530,857.57	561,026.45

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Fixed Assets—October 31, 1938

NIAGARA SYSTEM

	Net capital expenditures in the year		Fixed Assets				Total	
			Under construction	In service				
				Non-depreciable including lands, water rights and intangible	Depreciable			
	\$	c.	\$	c.	\$	c.	\$	c.
Power Plants:								
Niagara river:								
Queenston-Chippawa.	1,000.53				47,962,329.96	28,862,644.97	76,824,974.93	
Ontario Power.....	109,475.47		123,876.82		7,281,151.42	14,794,006.46	22,199,034.70	
Toronto Power.....	6,011.02				3,823,511.60	7,691,664.91	11,515,176.51	
Ottawa river:								
Chats Falls.....	7,260.65		281.39		808,202.57	6,292,776.10	7,101,260.06	
Welland canal:								
DeCew Falls.....	9,756.28		20,416.71		8,323,994.91	3,347,565.58	11,691,977.20	
Hamilton steam plant.	584.69				502,390.58		502,390.58	
	100,552.98		144,574.92		68,701,581.04	60,988,658.02	129,834,813.98	
Transformer Stations:								
Southern Ontario.....	673,524.85		438,620.82			26,866,825.86	27,305,446.68	
Eastern—Chats Falls..	1,101,872.47		1,145,133.75			8,875,289.68	10,020,423.43	
	1,775,397.32		1,583,754.57			35,742,115.54	37,325,870.11	
Transmission Lines:								
Southern Ontario:								
Right-of-way.....	8,652.68		6,437.83		6,971,902.14		6,978,339.97	
Lines.....	190,015.91		305,482.94			18,212,337.16	18,517,820.10	
Eastern—Chats Falls:								
Right-of-way.....	647.71				1,642,327.70		1,642,327.70	
Lines.....	97.78					7,501,284.25	7,501,284.25	
	199,218.52		311,920.77		8,614,229.84	25,713,621.41	34,639,772.02	
Local Systems:								
Niagara peninsula and Dundas area.....	21,084.39					253,341.34	253,341.34	
Lincoln Electric:								
St. Catharines system.	62.64					187,405.22	187,405.22	
	21,021.75					440,746.56	440,746.56	
Sub-total.....	2,096,190.57		2,040,250.26		77,315,810.88	122,885,141.53	202,241,202.67	
Rural Power Districts:								
H-E.P.C. investment..	1,142,489.29		99,663.21			9,337,822.59	9,437,485.80	
Government grants...	1,138,276.32		99,662.74			9,247,803.42	9,347,466.16	
	2,280,765.61		199,325.95			18,585,626.01	18,784,951.96	
Rural Lines:								
Welland and Milton...						20,058.42	20,058.42	
	4,376,956.18		2,239,576.21		77,315,810.88	141,490,825.96	221,046,213.05	

	Cost statements	Transfers for cost purposes	Fixed assets as above
	\$ c.	\$ c.	\$ c.
Cost of Power schedules.....	202,179,126.05	62,076.62	202,241,202.67
Rural Operating schedules.....	9,499,562.42	62,076.62	9,437,485.80
Rural Lines schedule.....	20,058.42		20,058.42

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Fixed Assets—October 31, 1938

GEORGIAN BAY SYSTEM

	Net capital expendi- tures in the year	Fixed Assets				Total
		Under con- struction	In service		Depreciable	
			Non-depre- ciable incl. lands,water rights and intangible			
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	
Power Plants:						
Musquash river:						
Bala No. 1 and No. 2 plants..			70,468.43	50,610.70	121,079.13	
Ragged Rapids.....	806,818.78		22,505.28	1,195,930.12	1,218,435.40	
Lands and water rights (Ragged Rapids, Big Eddy, Sandy Grey and Go Home developments).....			48,023.87		48,023.87	
Seyvern river:						
Wasdells.....	1,728.76		15,302.32	134,284.24	149,586.56	
Big Chute.....	674.18		122,540.48	549,290.48	671,830.96	
Preliminary surveys.....			4,107.56		4,107.56	
Beaver river:						
Eugenia.....	3,547.41	562.57	148,980.43	1,090,443.65	1,239,986.65	
Saugeen river:						
Hanover and Maple Hill.....	3,750.00		16,000.00	25,932.55	41,932.55	
Walkerton.....	1,485.00		97,721.83	114,099.03	211,820.86	
Southampton.....	736.44		69,462.43	68,646.32	138,108.75	
Muskoka river:						
South Falls.....	114.15		17,365.93	438,600.90	455,966.83	
Trethewey Falls.....			51,549.31	305,516.96	357,066.27	
Hanna Chute.....			34,520.82	207,624.55	242,145.37	
Hollow Lake dam.....	14.45		16,569.79	29,540.16	46,109.95	
Preliminary surveys.....			14,912.93		14,912.93	
Sauble river:						
Lands and rights.....	101.50		20,858.09		20,858.09	
Gull river:						
Lands and rights.....			5,859.20		5,859.20	
	806,824.79	562.57	776,748.70	4,210,519.66	4,987,830.93	
Transformer Stations.....	94,079.34	7,492.82		1,346,641.40	1,354,134.22	
Transmission Lines.....	78,769.69	21,426.25		2,717,491.41	2,738,917.66	
Local Systems.....	6,090.11			93,388.18	93,388.18	
Sub-total.....	985,763.93	29,481.64	776,748.70	8,368,040.65	9,174,270.99	
Rural Power Districts:						
H-E.P.C. investment.....	452,613.87	34,702.61		1,796,562.24	1,831,264.85	
Government grants.....	433,684.95	34,516.78		1,670,653.54	1,705,170.32	
	886,298.82	69,219.39		3,467,215.78	3,536,435.17	
Rural Lines:						
Brechin and Flesherton.....	13.00			2,837.17	2,837.17	
	1,872,049.75	98,701.03	776,748.70	11,838,093.60	12,713,543.33	

	Cost statements	Transfers for cost purposes	Fixed assets as above
	\$ c.	\$ c.	\$ c.
Cost of power schedules	9,159,237.07	15,033.92	9,174,270.99
Rural Operating schedule	1,846,298.77	15,033.92	1,831,264.85
Rural Lines schedule	2,837.17		2,837.17

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Fixed Assets— October 31, 1938

EASTERN ONTARIO SYSTEM

	Net capital expenditures in the year	Fixed Assets			Total
		Under construction	In service		
			Non-depreciable incl. lands, water rights and intangible	Depreciable	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Power Plants:					
Fenelon river:					
Fenelon Falls	82.00		60,000.00	84,322.33	144,322.33
Otonabee river:					
Auburn.....	243.82	33.37	31,400.00	288,540.78	319,974.15
Douro.....				68,478.30	68,478.30
Lakefield.....	1,524.76		19,620.05	217,016.44	236,636.49
Youngs Point.....	1,330.13	518.52	2,180.81	7,813.69	10,513.02
Trent river:					
Heely Falls.....	496.56	35.26		1,186,642.08	1,186,677.34
Seymour.....	571.56	571.56		300,528.81	301,100.37
Ranney Falls.....	490.17	1,107.77		1,339,351.32	1,340,459.09
Ranney Falls No. 3.....	12,885.20		19,596.20	54,598.17	74,194.37
Hagues Reach.....	35.00			573,452.30	573,452.30
Meyersburg.....	270.84	270.84		836,958.33	837,229.17
Sills Island.....	17,905.84	18,557.52	38,679.36	218,373.41	275,610.29
Frankford.....	332.62			252,400.03	252,400.03
Sydney.....	300.00	4.76		251,800.29	251,805.05
Deer river:					
Cordova Power Site.....			2,234.69		2,234.69
Gull river:					
Norland and Elliot Chute Site.....			17,577.60		17,577.60
Mississippi river:					
High Falls.....	555.46	384.55	13,113.84	685,653.79	699,152.18
Carleton Place.....			7,929.06	49,847.10	57,776.16
Galetta.....	149.19		20,000.00	128,117.75	148,117.75
Ragged Chutes, Playfair and Appleton Sites.....			52,272.85		52,272.85
Rosebank and Blakeney Sites.....			23,321.18		23,321.18
Surveys.....			10,594.39		10,594.39
Madawaska river:					
Calabogie.....	5,819.38	4,689.95	80,825.74	666,236.62	751,752.31
Storage Dam.....			2,555.00	16,075.18	18,630.18
Undeveloped Sites.....			650,000.00		650,000.00
Miscellaneous equipment.....				46,504.47	46,504.47
Inactive plant.....		7.00			7.00
Intangible.....			2,217,761.29		2,217,761.29
	42,158.53	26,181.10	3,269,662.06	7,272,711.19	10,568,554.35
Transformer Stations.....	30,291.44	13,173.49		3,004,144.53	3,017,318.02
Transmission Lines.....	46,797.96	25,027.43	297,438.28	4,883,565.21	5,206,030.92
Local and Rural Systems.....	133.35			208,251.21	208,251.21
Campbellford Pulp Mill.....				52,559.93	52,559.93
Cobourg Gas Works.....	500.00			25,913.01	25,913.01
Sub-total.....	118,881.28	64,382.02	3,567,100.34	15,447,145.08	19,078,627.44
Rural Power Districts.....					
H-E.P.C. investment.....	563,133.76	78,964.91		2,853,695.44	2,932,660.35
Government grants.....	559,341.61	78,964.90		2,809,436.68	2,888,401.58
	1,122,475.37	157,929.81		5,663,132.12	5,821,061.93
	1,241,356.65	222,311.83	3,567,100.34	21,110,277.20	24,899,689.37

	Cost statements	Transfers for cost purposes	Fixed assets as above
	\$ c.	\$ c.	\$ c.
Cost of power schedules.....	19,041,983.81	36,643.63	19,078,627.44
Rural Operating schedules.....	2,969,303.98	36,643.63	2,932,660.35

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Fixed Assets—October 31, 1938

THUNDER BAY SYSTEM

	Net capital expenditures in the year	Under construction	Fixed Assets		Total
			In service		
			Non-depreciable incl. lands, water rights and intangible	Depreciable	
Power Plants:	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Nipigon river:					
Cameron Falls.....	115,545.22	116,161.05	236,600.51	8,792,665.10	9,145,426.66
Alexander.....	686.75		76,898.44	5,371,664.32	5,448,562.76
Virgin Falls Dam.....			55,450.41	426,736.74	482,187.15
Deficit, 1921-1923.....			620,818.33		620,818.33
	114,858.47	116,161.05	989,767.69	14,591,066.16	15,696,994.90
Transformer Stations.....	62,207.11	243.25		1,204,182.73	1,204,425.98
Transmission Lines.....	14,280.06	6,747.95	326,321.17	2,321,358.57	2,654,427.69
Local Systems.....	15,366.42			57,443.93	57,443.93
Sub-total.....	206,712.06	123,152.25	1,316,088.86	18,174,051.39	19,613,292.50
Rural Power Districts:					
H-E.P.C. investments.....	25,560.64	379.40		95,994.97	96,374.37
Government grants.....	25,560.64	379.39		95,994.98	96,374.37
	51,121.28	758.79		191,989.95	192,748.74
	257,833.34	123,911.04	1,316,088.86	18,366,041.34	19,806,041.24

	Cost statements	Preliminary expenditures	Fixed assets as above
	\$ c.	\$ c.	\$ c.
Cost of Power schedules.....	19,714,100.33	100,807.83	19,613,292.50
Rural Operating schedules.....	96,374.37		96,374.37

NON-SYSTEM PROPERTIES

	Net capital expenditures in the year	Fixed Assets			Total
		Under construction	In service		
			Non-depreciable incl. lands, water rights and intangible	Depreciable	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Bonnechere River Storage:					
Round Lake dam.....				23,185.58	23,185.58
Deficit 1917-1931.....			28,556.30		28,556.30
			28,556.30	23,185.58	51,741.88
Nipissing Rural Power District:					
H-E.P.C. investment.....	9,506.48	21.12		44,674.48	44,695.60
Government grants.....	9,506.49	21.11		43,930.75	43,951.86
	19,012.97	42.23		88,605.23	88,647.46
Manitoulin Rural Power Dist.					
Transformer Station.....	450.99			5,549.10	5,549.10
Transmission lines					
H-E.P.C. investment.....	31,405.22	30,535.62		38,530.16	69,065.78
	31,856.21	30,535.62		44,079.26	74,614.88
Government grants.....	31,405.22	30,535.61		37,766.96	68,302.57
	63,261.43	61,071.23		81,846.22	142,917.45
	82,274.40	61,113.46	28,556.30	193,637.03	283,306.79

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
Fixed Assets—October 31, 1938
SERVICE AND ADMINISTRATIVE BUILDINGS AND EQUIPMENT

	Net capital expendi- tures in the year	Fixed Assets			Total
		Under con- struction	In service		
			Non- depreciable including lands	Depreciable	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Administrative Buildings:					
Toronto:					
University Avenue.....	24,773.37	20,099.55	195,837.00	1,464,264.37	1,680,200.92
Elm and Centre Streets..				160,821.95	160,821.95
	24,773.37	20,099.55	195,837.00	1,625,086.32	1,841,022.87
Service Bldgs. & Equipment:					
Toronto:					
Strachan Avenue.....	12,135.50			531,609.22	531,609.22
1379 Bloor Street West..	63,137.41	13,137.41		50,000.00	63,137.41
Cobourg.....	9.00			22,070.08	22,070.08
Hamilton.....			441,439.88	308,560.12	750,000.00
	75,263.91	13,137.41	441,439.88	912,239.42	1,366,816.71
	100,037.28	33,236.96	637,276.88	2,537,325.74	3,207,839.58

SUMMARY

	Net capital expendi- tures in the year	Fixed Assets				Total
		Under con- struction	In service			
			Non-depreci- able including lands, water rights and intangible	Depreciable		
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	
Niagara system.....	4,376,956.18	2,239,576.21	77,315,810.88	141,490,825.96	221,046,213.05	
Georgian Bay system....	1,872,049.75	98,701.03	776,748.70	11,838,093.60	12,713,543.33	
Eastern Ontario system..	1,241,356.65	222,311.83	3,567,100.34	21,110,277.20	24,899,689.37	
Thunder Bay system....	257,833.34	123,911.04	1,316,088.86	18,366,041.34	19,806,041.24	
Non-system properties...	82,274.40	61,113.46	28,556.30	193,637.03	283,306.79	
Service and administra- tive buildings and equipment.....	100,037.28	33,236.96	637,276.88	2,537,325.74	3,207,839.58	
	7,930,507.60	2,778,850.53	83,641,581.96	195,536,200.87	281,956,633.36	
Less: Grants-in-aid of construction:						
Province of Ontario— for rural power dis- tricts.....	2,197,775.23	244,080.53	.....	13,905,586.33	14,149,666.86
	5,732,732.37	2,534,770.00	83,641,581.96	181,630,614.54	267,806,966.50	

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
CAPITAL EXPENDITURES AND GRANTS—RURAL POWER DISTRICTS

Summary at October 31, 1938

Statement showing the total capital expenditures to October 31, 1938, on the construction of Primary and Secondary lines in Rural Power Districts; the portion thereof in course of construction; and the investment in lines in operation; also the amounts of the Grants (fifty percent of both Primary and Secondary lines) paid or payable to the Commission by the Province of Ontario up to October 31, 1938

System	Total capital expenditure	In course of construction	In operation	Grants (50% of Primary and Secondary lines) paid or payable by the Province as authorized by Orders-in-Council*
	\$ c.	\$ c.	\$ c.	\$ c.
Niagara system.....	18,784,951.96	199,325.95	18,585,626.01	9,347,466.16
Georgian Bay system.....	3,536,435.17	69,219.39	3,467,215.78	1,705,170.32
Eastern Ontario system.....	5,821,061.93	157,929.81	5,663,132.12	2,888,401.58
Thunder Bay system.....	192,748.74	758.79	191,989.95	96,374.37
Non-System properties:				
Nipissing district.....	88,647.46	42.23	88,605.23	43,951.86
Manitoulin district.....	137,368.35	61,071.23	76,297.12	68,302.57
Totals.....	28,561,213.61	488,347.40	28,072,866.21	14,149,666.86

*Grants not made by Province in respect of one summer resort, street lighting systems in 73 districts, service buildings in 3 districts and amounts paid for business already established (hereinafter called Intangible Assets) in 11 rural distribution systems purchased from private companies.

NOTE:

The Grants payable by the Province—as above set out—in respect of rural power districts as at October 31, 1938, amount in the aggregate to.....\$14,149,666.86

The cash paid over by the Province to the Commission up to October 31, 1938 on account of authorized grants to rural power districts—amounts to.....13,025,108.10

Balance payable by Province.....\$1,124,558.76

THE HYDRO-ELECTRIC POWER

Power Accounts Receivable

System or Property	Wholesale power consumers			
	Interim power bills	Accumulated amount standing as a charge or credit on October 31, 1938		Net total for wholesale consumers
		Charge	Credit	
	\$ c.	\$ c.	\$ c.	\$ c.
NIAGARA SYSTEM:				
Municipalities	1,703,267.90	513,300.18	273,673.83	1,942,894.25
Companies	492,862.30	.....	.....	492,862.30
Rural and local .....	.....	.....	.....	.....
Lincoln Electric .....	.....	.....	.....	.....
	2,196,130.20	513,300.18	273,673.83	2,435,756.55
GEORGIAN BAY SYSTEM:				
Municipalities	104,687.99	81.10	87,688.13	17,080.96
Companies	2,733.51	.....	.....	2,733.51
Rural and local .....	.....	.....	.....	.....
	107,421.50	81.10	87,688.13	19,814.47
EASTERN ONTARIO SYSTEM:				
Municipalities	280,474.72	3,319.28	98,527.81	185,266.19
Companies	52,618.77	.....	.....	52,618.77
Rural .....	.....	.....	.....	.....
Local .....	.....	.....	.....	.....
	333,093.49	3,319.28	98,527.81	237,884.96
THUNDER BAY SYSTEM:				
Municipalities	161,772.20	15,929.47	832.15	176,869.52
Companies	106,622.12	.....	.....	106,622.12
Rural and local .....	.....	.....	.....	.....
	268,394.32	15,929.47	832.15	283,491.64
NON-SYSTEM PROPERTIES:				
Nipissing rural .....	.....	.....	.....	.....
Manitoulin rural .....	.....	.....	.....	.....

Grand totals	2,905,039.51	532,630.03	460,721.92	2,976,947.62

COMMISSION OF ONTARIO

—October 31, 1938

Retail power consumers— local and rural districts	Net total power accounts receivable	Balance sheet figures		Debit balances three months or more overdue
		Debit balances	Credit balances	
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	1,942,894.25	1,990,107.94	47,213.69	.....
.....	492,862.30	492,862.30	.....	.....
534,756.99	534,756.99	534,756.99	.....	34,566.57
4,549.49	4,549.49	4,549.49	.....	35.92
539,306.48	2,975,063.03	3,022,276.72	47,213.69	34,602.49
.....	17,080.96	31,243.68	14,162.72	.....
.....	2,733.51	2,733.51	.....	.....
131,077.59	131,077.59	131,077.59	.....	6,071.78
131,077.59	150,892.06	165,054.78	14,162.72	6,071.78
.....	185,266.19	187,396.76	2,130.57	.....
.....	52,618.77	52,618.77	.....	.....
150,484.21	150,484.21	150,484.21	.....	10,903.61
13,741.75	13,741.75	13,741.75	.....	217.49
164,225.96	402,110.92	404,241.49	2,130.57	11,121.10
.....	176,869.52	177,289.62	420.10	.....
.....	106,622.12	106,622.12	.....	27,943.01
9,241.47	9,241.47	9,241.47	.....	1,271.10
9,241.47	292,733.11	293,153.21	420.10	29,214.11
2,814.19	2,814.19	2,814.19	.....	70.37
3,967.11	3,967.11	3,967.11	.....	6.66
6,781.30	6,781.30	6,781.30	.....	77.03
850,632.80	3,827,580.42	3,891,507.50	63,927.08	81,086.51

THE HYDRO-ELECTRIC POWER

Funded Debt Issued or

Description	Application of proceeds
4½% H-E.P.C. debentures.....	Refunding Toronto Power Co.
2¼—2¾% serial debentures.....	Repayment of Province of Ont. advances
5% H-E.P.C. debentures.....	Refunding Toronto Power Co.
6% " ".....	Toronto Power Co.
6% " ".....	T. & Y. R.R. equipment.
2½% " ".....	Refunding Prov. of Ont. advances, etc.
6% " ".....	Refunding Ontario Power Co.
3½% " ".....	Refunding D. P. & T. and E. D. Co.'s.
5% Ontario Power Co. bonds.....	Ontario Power Co.
2½% H-E.P.C. debentures.....	Refunding Prov. of Ont. advances, etc.
5% Ontario Transmission Co. bonds.....	Ontario Transmission Co.
4% H-E.P.C. debentures.....	Ontario Power Co.
4% " ".....	Essex system.
4% " ".....	Thorold system.
4¾% " ".....	Dominion Power & Transmission Co.
3¼% " ".....	Refunding Toronto Power Co.
3% " ".....	Financing Plant Extensions
Municipal debentures assumed.....	.....
RADIAL RAILWAYS:	
6% Hydro-Electric Railway bonds.....	Toronto & York Radial.
Funded Debt as shown on the Balance Sheet of The Hydro-Electric Power Commission of Ontario.....	.....
NORTHERN ONTARIO PROPERTIES:	
2½% H-E.P.C. debentures.....	Abitibi & St. Joseph districts.
2½% " ".....	{ Refunding Ontario Power Service Corp'n
3½% " ".....	{ and for financing plant extensions...
3% " ".....	Financing Plant Extensions
GUELPH RADIAL RAILWAY:	
5% Hydro-Electric Railway bonds.....	Extensions and betterments.
Funded Debt relating to all properties vested in, or operated by, the Commission.....	.....
*\$3,000,000.00 transferred to Northern Ontario Pro	perties as at October 31st, 1938.
Hydro-Electric Radial Railway Bonds pledged with the Bank of Montreal as security for loan of \$500,000.00:	
5% Hydro-Electric Railway bonds.....	Port Credit & St. Catharines Radial....
Hydro-Radial debentures assumed by the Sandwich, Windsor and Amherstburg Railway Co. and the Province of Ontario.....	Essex County Railway.

COMMISSION OF ONTARIO

Assumed—October 31, 1938

Date of issue	Date of maturity	Principal outstanding October 31, 1938	Interest for the year 1937-1938	Interest accrued October 31, 1938
		\$ c.	\$ c.	\$ c.
February 1, 1933	February 1, 1938	9,000,000.00	101,250.00	.....
March 15, 1937	September 15, 1937-39	4,000,000.00	144,687.50	11,562.50
June 16, 1924	June 15, 1939	4,000,000.00	200,000.00	75,000.00
December 1, 1920	December 1, 1940	413,200.00	24,792.00	10,330.00
December 1, 1920	December 1, 1940	205,800.00	12,348.00	5,145.00
March 1, 1936	March 1, 1941	10,000,000.00	250,000.00	41,666.67
June 24, 1921	June 24, 1941	3,200,000.00	192,000.00	67,857.53
January 1, 1935	January 1, 1943	10,000,000.00	350,000.00	116,666.66
February 1, 1903	February 1, 1943	7,472,000.00	377,700.86	93,400.00
June 15, 1936	June 15, 1944	10,000,000.00	250,000.00	93,750.00
May 1, 1905	May 1, 1945	1,201,000.00	60,050.00	.....
August 1, 1917	August 1, 1957	8,000,000.00	320,000.00	80,000.00
June 1, 1918	June 1, 1958	200,000.00	8,000.00	3,333.34
December 1, 1918	December 1, 1958	100,000.00	4,000.00	1,666.67
January 1, 1930	January 1, 1970	13,000,000.00	617,500.00	205,833.33
February 1, 1938	February 1, 1953	9,000,000.00	219,375.00	73,125.00
August 1, 1938	August 1, 1948	7,000,000.00	74,178.10*	52,500.00
Various	Various	87,792,000.00	3,205,881.46	931,836.70
		7,469.58	1,130.63	268.81
		87,799,469.58	3,207,012.09	932,105.51
December 1, 1920	December 1, 1940	2,375,000.00	142,500.00	59,375.00
.....	.....	90,174,469.58	3,349,512.09	991,480.51
March 1, 1936	March 1, 1941	5,000,000.00	125,000.00	20,833.33
April 1, 1937	April 1, 1942	11,000,000.00	275,000.00	22,916.66
April 1, 1937	April 1, 1947	8,000,000.00	280,000.00	23,333.33
August 1, 1938	August 1, 1948	5,500,000.00	18,544.52*	41,250.00
		29,500,000.00	698,544.52	108,333.32
May 1, 1931	November 1, 1970	300,000.00	15,000.00	.....
.....	.....	119,974,469.58	4,063,056.61	1,099,813.83
November 1, 1919	November 1, 1969	1,200,000.00	.....	.....

In respect of the Sandwich, Windsor and Amherstburg Railway:

The Commission having—on the advice of its Solicitors—decided that the bonds of \$5,816,205, issued by it between 1920 and 1926 (and guaranteed by the Province of Ontario), under the provisions of the Hydro-Electric Railway Act, in purchase of the Sandwich, Windsor and Amherstburg Railway and to make extensions and betterments thereto, ceased to be a liability of the Commission upon the passing of the Sandwich, Windsor and Amherstburg Railway Act in 1930 and upon the transfer of the Railway to the Sandwich, Windsor and Amherstburg Railway Company in 1931, such bonds have not been reflected as a liability in this Statement.

THE HYDRO-ELECTRIC POWER

Depreciation and Obsolescence

	Niagara system	Georgian Bay system
	\$ c.	\$ c.
Balances at November 1, 1937.....	27,735,199.59	2,105,444.34
Provisions in the year—direct.....	1,558,882.56	133,878.03
indirect.....		
Interest at 4% on reserves' balances.....	1,109,407.99	84,217.77
Adjustments re transfer of equipment.....	23,878.52	331.76
Sub-total.....	30,427,368.66	2,323,871.90
Expenditures for the year.....	473,587.69	29,145.15
Balances at October 31, 1938.....	29,953,780.97	2,294,726.75
Account balances:		
Power plants, transmission lines and transformer stations.....	26,714,983.89	1,981,646.72
Rural power districts.....	3,231,900.86	312,145.23
Rural lines.....	6,896.22	934.80
Manitoulin rural power district.....		
Nipissing rural power districts.....		
Administrative office building.....		
Service buildings and equipment.....		
	29,953,780.97	2,294,726.75

THE HYDRO-ELECTRIC POWER

Contingencies Reserves

	Niagara system	Georgian Bay system
	\$ c.	\$ c.
Balances at November 1, 1937.....	5,047,863.88	567,477.11
Provision in the year as per cost statement.....	604,442.27	29,247.78
Interest at 4% on reserves' balances.....	201,914.55	22,699.09
Profits from sale of securities and sundry adjustments.....	35,783.70	784.25
Sub-total.....	5,890,004.40	620,208.23
Contingencies met with during year.....	666,237.13	40,736.80
Terminal Building—Hamilton.....	27,597.50	
Balances at October 31, 1938.....	5,196,169.77	579,471.43
Account balances:		
Power plants, transmission lines, transformer stations and rural power districts.....	5,192,859.01	579,061.12
Rural lines.....	3,310.76	410.31
Manitoulin rural power district.....		
Nipissing rural power districts.....		
	5,196,169.77	579,471.43

COMMISSION OF ONTARIO

Reserves—October 31, 1938

Eastern Ontario system	Thunder Bay system	Non-system properties	Service and administrative buildings and equipment	Total for power undertakings operated on a “cost basis”
\$ c. 4,588,776.53 261,820.01 181,943.99 (46,116.15)	\$ c. 2,227,058.46 159,990.02 89,082.34	\$ c. 13,877.73 1,524.93 555.11	\$ c. 521,151.98 12,340.51 17,710.42	\$ c. 37,191,508.63 2,116,095.55 12,340.51 1,482,917.62 (21,905.87)
4,986,424.38 79,005.73	2,476,130.82 2,164.38	15,957.77 14.10	551,202.91 5,167.03	40,780,956.44 589,084.08
4,907,418.65	2,473,966.44	15,943.67	546,035.88	40,191,872.36
4,272,392.40 635,026.25	2,457,861.17 16,105.27 ..... ..... ..... ..... .....	..... ..... ..... 6,828.78 9,114.89 ..... .....	..... ..... ..... ..... 172,318.17 373,717.71	35,426,884.18 4,195,177.61 7,831.02 6,828.78 9,114.89 172,318.17 373,717.71
4,907,418.65	2,473,966.44	15,943.67	546,035.88	40,191,872.36

COMMISSION OF ONTARIO

—October 31, 1938

Eastern Ontario system	Thunder Bay system	Non-system properties	Total for power undertakings operated on a “cost basis”
\$ c. 1,502,245.61 66,627.95 60,089.82 200.00	\$ c. 991,795.46 85,852.37 39,671.82	\$ c. 4,396.44 175.86	\$ c. 8,113,778.50 786,170.37 324,551.14 36,767.95
1,629,163.38	1,117,319.65	4,572.30	9,261,267.96
62,322.16	3,179.77	575.06	773,050.92 27,597.50
1,566,841.22	1,114,139.88	3,997.24	8,460,619.54
1,566,841.22	1,114,139.88 ..... ..... .....	..... ..... 1,842.26 2,154.98	8,452,901.23 3,721.07 1,842.26 2,154.98
1,566,841.22	1,114,139.88	3,997.24	8,460,619.54

THE HYDRO-ELECTRIC POWER

Stabilization of Rates Reserves

	Niagara system
	\$ c.
Balance November 1, 1937.....	4,379,543.58
Appropriations in the year as per cost statement.....	175,181.75
Interest at 4% on stabilization balances.....	
Balance as at October 31, 1938.....	4,554,725.33
Account balances:	
Systems.....	4,554,725.33

THE HYDRO-ELECTRIC POWER

Sinking Fund Reserves

	Niagara system	Georgian Bay system
	\$ c.	\$ c.
Balance at November 1, 1937.....	37,435,913.74	1,474,287.32
Provision in the year—direct.....	2,201,335.71	99,052.44
indirect.....		
Interest at 4% on reserves' balances.....	1,497,436.55	58,971.49
Total.....	3,698,772.26	158,023.93
Adjustment.....		(55.68)
Balances at October 31, 1938.....	41,134,686.00	1,632,255.57
Account balances:		
Systems.....	40,187,177.92	1,528,653.13
Rural power districts.....	932,372.57	102,297.59
Rural lines.....	15,135.51	1,304.85
Bonnetchere River storage.....		
Manitoulin rural power districts.....		
Nipissing rural power districts.....		
Administrative office buildings.....		
Service buildings and equipment.....		
	41,134,686.00	1,632,255.57

COMMISSION OF ONTARIO

—October 31, 1938

Georgian Bay system	Eastern Ontario system	Thunder Bay system	Total for power undertakings operated on a "cost basis"
\$ c.	\$ c.	\$ c.	\$ c.
79,548.60	240,499.00	123,423.00	4,823,014.18
86,648.10	81,494.60	.....	168,142.70
3,181.94	9,619.96	4,936.92	192,920.57
169,378.64	331,613.56	128,359.92	5,184,077.45
169,378.64	331,613.56	128,359.92	5,184,077.45

COMMISSION OF ONTARIO

—October 31, 1938

Eastern Ontario system	Thunder Bay system	Non-system properties	Service and administrative buildings and equipment	Totals for power undertakings operated on a "cost basis"
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
2,027,152.91	1,977,353.52	15,407.80	406,704.06	43,336,819.35
230,069.37	283,441.03	838.69	.....	2,814,737.24
.....	.....	1,737.60	25,136.19	26,873.79
81,086.12	79,094.14	616.31	16,268.16	1,733,472.77
311,155.49	362,535.17	3,192.60	41,404.35	4,575,083.80
.....	.....	.....	.....	(55.68)
2,338,308.40	2,339,888.69	18,600.40	448,108.41	47,911,847.47
2,143,313.18	2,335,550.40	.....	.....	46,194,694.63
194,995.22	4,338.29	.....	.....	1,234,003.67
.....	.....	.....	.....	16,440.36
.....	.....	13,717.74	.....	13,717.74
.....	.....	2,449.09	.....	2,449.09
.....	.....	2,433.57	.....	2,433.57
.....	.....	.....	270,804.34	270,804.34
.....	.....	.....	177,304.07	177,304.07
2,338,308.40	2,339,888.69	18,600.40	448,108.41	47,911,847.47

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Account with
The Provincial Treasurer of the Province of Ontario
As at October 31, 1938

ADVANCES FROM THE PROVINCE OF ONTARIO

	Total	Northern Ontario Properties operated for the Province of Ontario	Niagara and other systems operated on a "cost basis"
	\$ c.	\$ c.	\$ c.
ADVANCES FOR CAPITAL EXPENDITURES:			
Cash advances made by the Province to the Commission for capital expenditures purposes during the years 1909 to 1934 inclusive.....	207,250,258.34	8,272,889.39	198,977,368.95
Cash returned by the Commission to the Province on April 30, 1935, to cover the difference between advances made by the Province to the Commission during the year ended October 31, 1934, and the capital expenditures made out of such advances by the Commission in that year.....	247,507.98	74,001.99	173,505.99
Total advances for capital expenditures.....	207,002,750.36	8,198,887.40	198,803,862.96
REPAYMENTS OF ADVANCES—1926-33:			
Cash repayments made by the Commission to the Province during the years 1926 to 1933 inclusive, which have been applied in each subsequent year to reduce the Commission's share in maturing Provincial obligations.....	17,008,616.73	.....	17,008,616.73
Commission's Share in Provincial Bonds at October 31, 1934.....	189,994,133.63	8,198,887.40	181,795,246.23
REPAYMENTS OF ADVANCES:			
Retirements of Commission's share of Provincial bonds matured in the period November 1, 1934, to October 31, 1938—			
In year ended Oct. 31, 1935 \$ 3,946,628.69			
" " " " 1936 21,998,092.45			
" " " " 1937 13,557,615.63			
" " " " 1938 1,777,019.93	41,279,356.70	1,828,250.15	39,451,106.55
Commission's share in Provincial bonds at October 31, 1938.....	148,714,776.93	6,370,637.25	142,344,139.68

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

STATEMENTS FOR MUNICIPALITIES

RECEIVING POWER UNDER COST CONTRACTS

For the Year ended October 31, 1938

STATEMENTS FOR EACH SYSTEM

Cost of Power

Credit or Charge

Sinking Fund

Rural Operating

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each it by the Commission; the amount received by the Commission or charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power purchased	Operation, maintenance and administrative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Acton.....	27.50	194,247.43	771.8	4,516.38	4,072.77	8,846.04
Agincourt.....	35.50	48,792.15	166.6	974.90	1,181.61	2,222.94
Ailsa Craig.....	46.50	35,430.77	104.1	609.17	1,124.19	1,607.85
Alvinston.....	70.50	43,219.06	85.4	499.74	1,903.16	1,967.87
Amherstburg.....	33.50	204,066.63	744.6	4,357.21	4,649.93	8,960.75
Ancaster twp.....	27.50	70,538.80	319.4	1,869.05	2,106.05	3,204.07
Arkona.....	67.50	26,308.49	52.1	304.88	935.42	1,181.73
Aylmer.....	30.50	161,054.21	654.6	3,830.56	3,625.77	7,103.54
Ayr.....	29.50	45,699.92	187.5	1,097.20	1,058.92	2,082.04
Baden.....	28.50	76,071.84	324.9	1,901.23	1,836.69	3,465.22
Beachville.....	28.50	109,252.50	469.6	2,747.98	2,586.73	4,985.40
Beamsville.....	26.00	89,871.02	429.5	2,513.33	2,044.81	4,084.80
Belle River.....	35.50	41,205.64	155.5	909.95	1,096.67	1,877.07
Blenheim.....	34.50	112,004.97	437.8	2,561.90	4,107.53	5,112.50
Blyth.....	49.50	37,036.79	103.6	606.24	1,185.63	1,691.73
Bolton.....	38.50	43,496.42	149.2	873.08	1,207.25	1,968.23
Bothwell.....	42.50	33,366.43	118.5	693.43	1,579.33	1,523.18
Brampton.....	27.00	556,855.78	2,690.2	15,742.38	15,394.56	25,379.03
Brantford.....	22.50	3,050,026.41	14,802.4	86,619.95	56,259.10	139,014.02
Brantford twp.....	27.50	139,548.07	684.1	4,003.18	4,801.36	6,359.10
Bridgeport.....	31.50	30,322.31	115.4	675.29	824.11	1,363.04
Brigden.....	60.50	32,678.42	74.4	435.37	1,028.20	1,487.83
Brussels.....	45.50	45,693.97	133.4	780.62	1,476.15	2,087.49
Burford.....	30.50	43,493.72	180.0	1,053.32	1,020.29	1,981.56
Burgessville.....	50.50	13,873.04	39.1	228.80	617.20	631.31
Caledonia.....	27.50	71,020.82	320.9	1,877.83	1,580.90	3,233.91
Campbellville.....	55.50	12,242.44	31.7	185.50	489.49	557.55
Cayuga.....	43.50	41,091.76	121.5	710.99	1,085.61	1,864.65
Chatham.....	26.50	1,175,865.17	5,375.7	31,457.26	25,244.63	53,604.27
Chippawa.....	21.50	48,419.83	285.0	1,667.75	1,165.27	2,206.50
Clifford.....	51.50	31,065.67	77.4	452.93	996.64	1,414.29
Clinton.....	33.50	134,099.51	504.5	2,952.21	4,554.92	6,139.82
Comber.....	41.50	41,777.06	126.4	739.66	1,296.73	1,900.14
Cottam.....	40.50	20,005.43	66.8	390.90	737.63	911.21
Courtright.....	65.50	19,739.49	41.3	241.68	774.82	899.33

SYSTEM

N—COST OF POWER

Municipality as the Cost—under Power Commission Act—of Power supplied to from each Municipality, and the amount remaining to be credited supplied to it in the year ended October 31, 1938

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Provision for depreciation and obsolescence	Provision for contingencies	Provision for sinking fund				Credited	Charged
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
1,708.28	640.76	2,046.96	41.02	21,872.21	21,223.54	.....	648.67
436.93	143.69	514.38	8.85	5,483.30	5,912.46	429.16	.....
366.07	110.96	372.05	5.53	4,195.82	4,839.44	643.62	.....
510.32	132.46	455.36	4.54	5,473.45	6,020.66	547.21	.....
1,731.21	651.16	2,073.50	39.57	22,463.33	24,942.67	2,479.34	.....
559.36	222.10	741.42	16.97	8,719.02	8,784.38	65.36	.....
305.13	81.72	273.45	2.77	3,085.10	3,513.91	428.81	.....
1,310.73	498.79	1,643.75	34.79	18,047.93	19,965.00	1,917.07	.....
392.46	150.05	481.78	9.96	5,272.41	5,531.44	259.03	.....
631.54	247.54	801.85	17.27	8,901.34	9,259.35	358.01	.....
905.63	368.58	1,153.61	24.96	12,772.89	13,384.82	611.93	.....
700.83	299.73	945.21	22.82	10,611.53	11,471.94	860.41	.....
363.43	136.50	434.35	8.26	4,826.23	5,521.08	694.85	.....
980.75	370.42	1,183.02	23.27	14,339.39	15,103.28	763.89	.....
392.95	117.46	391.46	5.51	4,390.98	5,127.74	736.76	.....
410.98	132.49	455.45	7.93	5,055.41	5,744.80	689.39	.....
311.40	111.14	352.46	6.30	4,577.24	5,035.15	457.91	.....
4,124.57	1,682.17	5,872.66	142.97	68,338.34	72,635.61	4,297.27	.....
23,151.02	9,805.17	32,167.58	619.46	347,636.30	339,786.64	.....	7,849.66
1,024.06	438.20	1,471.48	36.36	18,133.74	18,812.70	678.96	.....
267.90	96.43	315.40	6.13	3,548.30	3,633.98	85.68	.....
369.91	105.93	344.28	3.95	3,775.47	4,502.16	726.69	.....
476.03	146.56	483.04	7.09	5,456.98	6,069.67	612.69	.....
371.09	143.82	458.53	9.57	5,038.18	5,489.45	451.27	.....
146.67	43.26	146.08	2.08	1,815.40	1,972.39	156.99	.....
566.86	227.84	748.32	17.05	8,252.71	8,823.91	571.20	.....
133.81	36.63	129.02	1.68	1,533.68	1,756.98	223.30	.....
425.67	124.79	431.48	6.46	4,649.65	5,285.19	635.54	.....
9,019.37	3,796.08	12,403.93	285.68	135,811.22	142,455.12	6,643.90	.....
298.91	139.76	510.58	15.15	6,003.92	6,128.34	124.42	.....
343.14	97.15	327.26	4.11	3,635.52	3,983.46	347.94	.....
1,221.86	419.26	1,420.74	26.81	16,735.62	16,407.39	.....	328.23
422.95	132.56	439.69	6.72	4,938.45	5,246.92	308.47	.....
190.68	65.67	210.85	3.55	2,510.49	2,704.01	193.52	.....
229.54	59.69	208.10	2.19	2,415.35	2,707.29	291.94	.....

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each it by the Commission; the amount received by the Commission or charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power purchased	Operation, maintenance and administrative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Dashwood.....	45.50	23,187.63	70.4	411.96	603.02	1,053.66
Delaware.....	36.50	14,387.45	59.6	348.76	475.77	653.44
Delhi.....	36.00	52,155.02	144.1	843.24	1,363.08	1,876.75
Dorchester.....	37.50	26,593.48	96.6	565.28	762.13	1,208.07
Drayton.....	51.50	45,543.04	111.2	650.71	1,295.11	2,073.37
Dresden.....	39.50	100,431.38	347.5	2,033.48	2,771.70	4,567.67
Drumbo.....	36.50	21,261.56	81.2	475.16	649.24	968.57
Dublin.....	55.00	12,760.98	35.4	207.15	416.26	578.14
Dundas.....	22.50	356,920.30	1,833.5	10,729.18	5,929.47	16,208.29
Dunville.....	27.50	218,084.24	1,006.0	5,886.86	4,131.65	9,969.79
Dutton.....	33.50	55,773.67	227.2	1,329.52	1,757.20	2,540.63
Elmira.....	31.50	175,973.84	700.0	4,096.23	3,069.67	8,016.46
Elora.....	31.50	84,623.37	326.0	1,907.67	2,064.50	3,854.10
Embro.....	42.50	32,543.12	114.8	671.78	1,093.79	1,487.45
Erieau.....	49.50	28,230.59	81.1	474.58	1,079.46	1,287.55
Erie Beach.....	60.50	8,777.29	23.6	138.10	406.93	400.25
Essex.....	31.50	120,422.50	465.9	2,726.33	2,815.59	5,485.80
Etobicoke twp.....	23.50	1,078,876.09	5,198.2	30,418.57	19,977.00	48,836.31
Exeter.....	34.50	128,063.50	468.8	2,743.30	3,428.52	5,817.57
Fergus.....	31.50	284,564.89	1,136.7	6,651.68	6,053.65	12,966.13
Fonthill.....	29.50	25,730.24	123.7	723.86	1,132.44	1,171.65
Forest.....	41.50	135,310.30	425.9	2,492.26	3,952.29	6,031.10
Forest Hill Village..	26.34	1,090,272.61	5,096.8	29,825.20	25,153.72	49,706.65
Galt.....	22.50	1,442,028.29	7,009.6	41,018.43	29,632.75	65,137.57
Georgetown.....	31.50	343,706.59	1,284.6	7,517.16	8,178.87	15,622.51
Glencoe.....	51.50	70,570.83	189.1	1,106.57	2,647.81	3,219.05
Goderich.....	38.50	349,368.62	1,158.0	6,776.33	9,941.29	15,964.52
Granton.....	48.50	22,709.58	66.2	387.39	701.21	1,001.20
Guelph.....	23.50	1,871,178.50	9,255.2	54,159.12	37,150.26	85,264.72
Hagersville.....	28.50	141,925.56	552.7	3,234.26	2,633.29	6,431.26
Hamilton.....	20.00	18,866,052.78	101,780.3	595,592.95	301,707.46	857,515.74
Harriston.....	38.50	101,417.18	344.5	2,015.93	2,742.70	4,617.84
Harrow.....	34.50	112,176.85	396.7	2,321.39	2,496.55	4,979.28
Hensall.....	45.50	59,380.59	163.6	957.35	1,585.31	2,698.66
Hespeler.....	24.50	368,948.29	1,804.7	10,560.65	7,837.97	16,765.97

SYSTEM

N—COST OF POWER

Municipality as the Cost—under Power Commission Act—of Power supplied to from each Municipality, and the amount remaining to be credited supplied to it in the year ended October 31, 1938

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Provision for depreciation and obsolescence	Provision for contingencies	Provision for sinking fund				Credited	Charged
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
236.46	71.65	243.81	3.74	2,624.30	3,202.00	577.70	.....
121.53	47.17	151.20	3.17	1,801.04	2,176.88	375.84	.....
392.80	130.25	434.28	7.66	5,048.06	5,187.60	139.54	.....
246.10	85.30	279.55	5.13	3,151.56	3,621.22	469.66	.....
506.67	138.99	479.77	5.91	5,150.53	5,724.61	574.08	.....
946.47	326.97	1,056.95	18.47	11,721.71	13,724.88	2,003.17	.....
192.01	68.21	224.13	4.32	2,581.64	2,962.86	381.22	.....
134.29	44.71	133.78	1.88	1,516.21	1,945.12	428.91	.....
2,490.90	1,088.44	3,750.57	97.44	40,294.29	41,254.59	960.30	.....
1,768.96	743.86	2,306.99	53.46	24,861.57	27,664.26	2,802.69	.....
479.70	178.40	587.90	12.07	6,885.42	7,610.31	724.89	.....
1,542.16	577.40	1,855.00	37.20	19,194.12	22,050.23	2,856.11	.....
760.34	276.66	891.83	17.32	9,772.42	10,268.16	495.74	.....
309.97	104.96	344.19	6.10	4,018.24	4,877.89	859.65	.....
293.91	88.70	297.94	4.31	3,526.45	4,013.17	486.72	.....
93.96	27.67	92.62	1.25	1,160.78	1,428.28	267.50	.....
1,043.34	400.41	1,269.40	24.76	13,765.63	14,674.53	908.90	.....
7,812.74	3,367.14	11,300.64	276.25	121,988.65	122,156.47	167.82	.....
1,179.41	406.37	1,346.17	24.91	14,946.25	16,173.27	1,227.02	.....
2,495.43	918.95	3,000.34	60.41	32,146.59	35,804.43	3,657.84	.....
199.94	76.56	271.12	6.57	3,582.14	3,647.61	65.47	.....
1,298.08	442.90	1,395.59	22.63	15,634.85	17,672.72	2,037.87	.....
7,335.02	3,147.41	11,502.03	270.86	126,940.89	134,249.69	7,308.80	.....
10,478.46	4,489.40	15,072.72	372.51	166,201.84	157,716.52	8,485.32	.....
3,139.64	1,097.76	3,615.02	68.27	39,239.23	40,463.62	1,224.39	.....
756.81	223.24	744.88	10.05	8,708.41	9,739.03	1,030.62	.....
3,421.50	1,062.30	3,694.16	61.54	40,921.64	43,286.39	2,364.75	.....
225.78	68.17	231.68	3.52	2,618.95	3,208.64	589.69	.....
13,624.31	5,962.92	19,730.11	491.85	216,383.29	217,497.84	1,114.55	.....
1,260.25	455.14	1,488.18	29.37	15,531.75	15,751.84	220.09	.....
124,551.55	57,150.20	198,427.56	5,408.93	2,140,354.39	2,035,606.41	104,747.98	.....
974.53	329.59	1,068.56	18.31	11,767.46	13,263.22	1,495.76	.....
989.99	364.07	1,152.20	21.08	12,324.56	13,686.69	1,362.13	.....
631.94	180.47	624.46	8.69	6,686.88	7,444.89	758.01	.....
2,696.34	1,155.61	3,879.61	95.91	42,992.00	44,214.11	1,222.11	.....

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each it by the Commission; the amount received by the Commission or charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power purchased	Operation, maintenance and administrative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Highgate.....	42.50	23,228.96	73.6	430.69	893.93	1,059.03
Humberstone.....	24.50	89,221.53	418.7	2,450.13	1,709.34	4,064.26
Ingersoll.....	24.50	483,450.67	2,246.0	13,143.03	10,211.60	22,030.51
Jarvis.....	35.50	52,784.42	167.3	979.00	1,178.85	2,393.75
Kingsville.....	34.50	143,179.12	530.3	3,103.18	3,240.14	6,594.49
Kitchener.....	22.50	3,984,703.47	19,781.1	115,754.08	73,560.67	181,471.31
Lambeth.....	37.50	31,304.89	113.5	664.17	987.97	1,422.11
LaSalle.....	32.50	57,824.60	221.0	1,293.24	1,618.57	2,634.16
Leamington.....	33.50	431,700.78	1,596.7	9,343.49	8,327.80	19,665.02
Listowel.....	32.50	257,915.68	1,033.2	6,046.03	6,624.18	11,742.37
London.....	22.50	6,779,039.20	33,840.5	198,026.20	120,278.40	307,765.74
London twp.....	29.50	109,222.12	471.5	2,759.10	2,595.08	4,960.11
Long Branch.....	25.50	179,672.46	820.6	4,801.95	3,579.74	8,136.73
Lucan.....	33.50	48,892.90	199.1	1,165.08	1,568.50	2,220.63
Lynden.....	33.50	21,812.30	86.0	503.25	617.87	991.01
Markham.....	32.50	80,646.68	312.9	1,831.01	2,266.66	3,672.12
Merlin.....	41.50	21,764.10	71.2	416.64	800.70	991.44
Merritton.....	19.50	986,813.59	5,599.8	32,768.63	16,626.48	44,935.05
Milton.....	30.50	202,217.36	879.4	5,146.03	6,531.93	9,214.79
Milverton.....	31.50	76,182.39	298.6	1,747.33	1,827.52	3,468.38
Mimico.....	21.50	444,202.29	2,247.5	13,151.81	8,521.39	20,105.84
Mitchell.....	29.50	123,366.50	524.5	3,069.24	3,349.31	5,619.58
Moorefield.....	60.50	14,672.36	31.1	181.99	430.37	672.78
Mount Brydges....	37.50	26,064.09	97.7	571.72	995.18	1,183.96
Newbury.....	49.50	11,424.65	32.6	190.77	474.89	521.22
New Hamburg.....	30.50	121,175.54	487.1	2,850.39	2,400.51	5,519.47
New Toronto.....	25.50	1,445,221.68	6,534.2	38,236.50	28,332.02	65,452.16
Niagara Falls.....	17.00	1,411,790.92	9,255.8	54,162.62	24,381.16	64,454.10
Niagara-on-the-Lake.....	22.50	94,179.36	541.9	3,171.06	2,367.72	4,301.40
Norwich.....	30.50	85,549.56	355.8	2,082.05	2,377.75	3,893.06
Oil Springs.....	39.50	60,597.54	201.3	1,177.96	1,889.48	2,736.36
Otterville.....	40.50	29,755.67	99.7	583.42	873.07	1,354.09
Palmerston.....	35.50	116,761.45	434.3	2,541.42	3,303.60	5,316.82
Paris.....	23.50	264,301.48	1,293.1	7,566.90	5,498.00	12,044.01
Parkhill.....	55.50	65,957.26	148.3	867.81	1,569.70	2,995.84

SYSTEM

N—COST OF POWER

Municipality as the Cost—under Power Commission Act—of Power supplied to from each Municipality, and the amount remaining to be credited supplied to it in the year ended October 31, 1938

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Provision for depreciation and obsolescence	Provision for contingencies	Provision for sinking fund				Credited	Charged
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
230.65	74.12	245.06	3.91	2,937.39	3,126.89	189.50	.....
699.64	294.55	940.46	22.25	10,180.63	10,256.88	76.25	.....
3,733.59	1,538.63	5,097.82	119.36	55,874.54	55,026.66	.....	847.88
528.82	165.23	553.91	8.89	5,808.45	5,938.50	130.05	.....
1,303.06	484.94	1,525.95	28.18	16,279.94	18,294.75	2,014.81	.....
28,725.27	12,618.89	41,992.14	1,051.23	455,173.59	445,075.52	.....	10,098.07
290.05	99.33	329.07	6.03	3,798.73	4,254.35	455.62	.....
505.45	193.65	609.54	11.74	6,866.35	7,182.18	315.83	.....
3,860.62	1,391.39	4,550.45	84.85	47,223.62	53,488.40	6,264.78	.....
2,228.15	845.74	2,717.16	54.91	30,258.54	33,577.58	3,319.04	.....
48,159.73	21,261.48	71,216.43	1,798.39	768,506.37	761,410.23	.....	7,096.14
892.53	350.06	1,147.76	25.06	12,729.70	13,909.21	1,179.51	.....
1,374.19	569.14	1,882.82	43.61	20,388.18	20,924.84	536.66	.....
418.46	157.94	513.85	10.58	6,055.04	6,668.42	613.38	.....
192.90	67.75	229.32	4.57	2,606.67	2,880.79	274.12	.....
654.86	251.99	849.72	16.63	9,542.99	10,169.44	626.45	.....
212.24	71.82	229.42	3.78	2,726.04	2,956.02	229.98	.....
6,256.17	2,840.53	10,397.89	297.61	114,122.36	109,196.75	.....	4,925.61
1,651.08	604.60	2,132.29	46.73	25,327.45	26,822.42	1,494.97	.....
668.59	255.68	802.58	15.87	8,785.95	9,407.07	621.12	.....
3,045.30	1,335.04	4,652.45	119.44	50,931.27	48,321.21	.....	2,610.06
1,018.58	393.60	1,300.36	27.87	14,778.54	15,473.22	694.68	.....
172.33	45.60	155.68	1.65	1,660.40	1,878.97	218.57	.....
236.42	85.03	273.97	5.19	3,351.47	3,664.02	312.55	.....
119.35	39.02	120.61	1.73	1,467.59	1,613.64	146.05	.....
1,053.72	390.82	1,277.20	25.89	13,518.00	14,857.67	1,339.67	.....
11,160.43	4,655.29	15,145.51	347.25	163,329.16	166,623.11	3,293.95	.....
7,332.34	3,796.40	14,914.56	491.92	169,533.10	157,348.97	.....	12,184.13
603.27	252.33	995.34	28.81	11,719.93	12,191.57	471.64	.....
724.33	279.17	900.85	18.91	10,276.12	10,852.11	575.99	.....
575.88	205.99	633.19	10.70	7,229.56	7,949.47	719.91	.....
289.72	94.94	313.33	5.30	3,513.87	4,036.46	522.59	.....
1,062.17	382.40	1,230.30	23.08	13,859.79	15,418.13	1,558.34	.....
1,943.57	829.14	2,786.96	68.72	30,737.30	30,386.74	.....	350.56
753.98	196.82	693.23	7.88	7,085.26	8,228.28	1,143.02	.....

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each it by the Commission; the amount received by the Commission or charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power purchased	Operation, maintenance and administrative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Petrolia.....	35.50	279,936.66	1,009.8	5,909.10	8,217.76	12,658.84
Plattsville.....	45.50	25,879.27	76.2	445.90	745.66	1,178.63
Point Edward.....	33.50	267,061.46	1,112.1	6,507.73	9,810.45	12,164.40
Port Colborne.....	24.50	356,864.83	1,674.7	9,799.93	6,347.97	16,256.08
Port Credit.....	29.50	152,520.94	684.0	4,002.60	4,331.43	6,950.46
Port Dalhousie.....	25.50	153,139.12	724.5	4,239.59	3,213.62	6,972.51
Port Dover.....	33.50	93,182.07	351.5	2,056.89	1,914.93	4,245.32
Port Rowan.....	50.50	22,992.54	73.1	427.76	616.58	1,060.59
Port Stanley.....	34.50	127,101.97	445.1	2,604.61	3,023.24	5,571.31
Preston.....	22.50	587,356.88	2,935.8	17,179.57	12,447.82	26,714.41
Princeton.....	40.50	36,677.79	123.2	720.94	1,255.18	1,670.65
Queenston.....	24.50	21,461.14	111.6	653.06	453.98	984.69
Richmond Hill.....	30.50	93,458.73	388.5	2,273.41	2,496.78	4,258.99
Ridgetown.....	33.50	129,431.87	500.6	2,929.39	4,418.67	5,903.26
Riverside.....	29.50	239,108.66	923.7	5,405.26	4,766.53	11,019.22
Rockwood.....	35.50	31,656.51	110.0	643.69	767.99	1,432.91
Rodney.....	45.00	46,646.27	138.2	808.71	1,533.13	2,122.73
St. Catharines.....	18.50	2,458,683.81	13,889.0	81,274.96	40,729.09	111,957.09
St. Clair Beach.....	35.50	21,824.18	74.9	438.30	662.39	1,004.03
St. George.....	35.50	39,408.75	150.1	878.35	1,197.90	1,795.26
St. Jacobs.....	29.50	65,950.26	283.5	1,658.97	1,466.66	3,003.18
St. Marys.....	31.50	308,494.70	1,321.4	7,732.50	9,561.20	14,041.19
St. Thomas.....	23.50	1,446,543.91	7,254.7	42,452.69	29,413.45	65,909.02
Sarnia.....	28.50	1,910,684.07	7,856.0	45,971.35	41,057.89	87,028.87
Scarboro twp.....	27.50	803,828.78	3,380.2	19,780.09	13,577.24	36,631.27
Seaforth.....	30.50	120,442.79	483.7	2,830.49	3,636.69	5,500.52
Simcoe.....	25.50	412,242.19	1,934.5	11,320.21	8,521.20	18,786.14
Springfield.....	43.50	24,333.03	64.4	376.85	722.30	1,042.92
Stamford twp.....	17.50	333,877.46	2,168.6	12,690.11	5,750.08	15,238.82
Stouffville.....	40.50	70,090.50	227.9	1,333.61	2,192.20	3,147.56
Stratford.....	25.50	1,478,600.85	6,936.8	40,592.42	33,185.98	67,300.11
Strathroy.....	29.50	264,750.11	1,110.7	6,499.54	5,232.47	12,023.78
Streetsville.....	35.50	25,696.19	108.2	633.16	896.60	1,170.90
Sutton.....	47.50	79,110.62	242.1	1,416.71	2,409.25	3,604.70
Swansea.....	29.00	504,089.68	2,432.3	14,233.21	16,730.68	22,977.04
Tavistock.....	31.50	137,736.02	560.8	3,281.66	3,523.13	6,269.00
Tecumseh.....	32.50	87,156.17	314.0	1,837.45	2,197.60	4,013.17
Thamesford.....	35.50	47,960.27	181.5	1,062.09	1,288.22	2,179.03
Thamesville.....	35.50	52,703.13	199.9	1,169.76	2,053.28	2,291.01
Thedford.....	62.50	35,987.52	82.7	483.94	1,209.84	1,613.12

SYSTEM

N—COST OF POWER

Municipality as the Cost—under Power Commission Act—of Power supplied to from each Municipality, and the amount remaining to be credited supplied to it in the year ended October 31, 1938

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Provision for depreciation and obsolescence	Provision for contingencies	Provision for sinking fund				Credited	Charged
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
2,536.87	937.94	2,929.23	53.67	33,243.41	36,498.24	3,254.83	.....
269.10	80.85	272.73	4.05	2,996.92	3,466.30	469.38	.....
2,208.18	887.49	2,814.82	59.10	34,452.17	37,256.31	2,804.14	.....
2,798.40	1,178.17	3,761.63	89.00	40,231.18	41,031.00	799.82	.....
1,212.75	491.01	1,608.32	36.35	18,632.92	20,178.69	1,545.77	.....
1,191.41	469.00	1,613.43	38.50	17,738.06	18,475.14	737.08	.....
848.53	294.52	982.36	18.68	10,361.23	11,773.83	1,412.60	.....
235.05	72.19	245.42	3.88	2,661.47	3,689.38	1,027.91	.....
1,135.56	394.98	1,289.19	23.65	14,042.54	15,355.92	1,313.38	.....
4,201.79	1,849.13	6,181.67	156.02	68,730.41	66,056.20	.....	2,674.21
357.63	116.69	386.58	6.55	4,514.22	4,989.22	475.00	.....
156.82	64.09	227.86	5.93	2,546.43	2,734.96	188.53	.....
714.08	291.45	985.52	20.65	11,040.88	11,848.70	807.82	.....
1,140.36	428.02	1,366.00	26.60	16,212.30	16,770.05	557.75	.....
2,115.68	825.47	2,549.83	49.09	26,731.08	27,248.36	517.28	.....
300.20	103.88	331.57	5.85	3,586.09	3,903.17	317.08	.....
482.09	145.19	491.20	7.34	5,590.39	6,219.72	629.33	.....
15,683.81	7,089.70	25,906.66	738.13	283,379.44	256,946.16	.....	26,433.28
207.98	74.11	232.33	3.98	2,623.12	2,660.57	37.45	.....
356.53	123.89	415.42	7.98	4,775.33	5,329.10	553.77	.....
544.32	216.52	694.93	15.07	7,599.65	8,362.71	763.06	.....
2,477.11	1,029.13	3,249.10	70.22	38,160.45	41,624.68	3,464.23	.....
10,301.51	4,550.65	15,251.23	385.54	168,264.09	170,485.01	2,220.92	.....
15,960.82	6,316.04	20,138.33	417.49	216,890.79	223,895.24	7,004.45	.....
6,072.95	2,449.02	8,476.42	179.63	87,166.62	92,956.37	5,789.75	.....
1,044.19	380.46	1,272.81	25.71	14,690.87	14,752.36	61.49	.....
3,160.81	1,279.46	4,347.08	102.81	47,517.71	49,328.51	1,810.80	.....
242.36	70.11	241.33	3.42	2,699.29	2,802.40	103.11	.....
1,763.23	898.55	3,526.23	115.27	39,982.29	37,950.60	.....	2,031.69
632.87	212.70	728.34	12.11	8,259.39	9,228.22	968.83	.....
11,156.67	4,786.77	15,573.11	368.64	172,963.70	176,889.19	3,925.49	.....
2,214.35	803.81	2,782.28	59.03	29,615.26	32,764.86	3,149.60	.....
215.38	85.20	270.94	5.75	3,277.93	3,839.27	561.34	.....
758.35	238.99	834.12	12.87	9,274.99	11,500.08	2,225.09	.....
3,255.17	1,459.50	5,316.85	129.26	64,101.71	70,536.17	6,434.46	.....
1,174.94	457.34	1,450.64	29.80	16,186.51	17,664.09	1,477.58	.....
807.32	297.15	928.64	16.69	10,098.02	10,203.96	105.94	.....
432.45	153.24	504.22	9.65	5,628.90	6,442.59	813.69	.....
433.52	167.13	530.14	10.62	6,655.46	7,096.99	441.53	.....
397.75	113.86	373.27	4.39	4,196.17	5,168.14	971.97	.....

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each
it by the Commission; the amount received by the Commission
or charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse- power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power pur- chased	Operation, main- tenance and adminis- trative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Thorndale.....	60.50	22,170.66	63.5	371.59	696.89	1,007.54
Thorold.....	20.50	399,282.84	2,147.7	12,567.81	7,388.02	18,180.93
Tilbury.....	33.50	129,577.93	494.7	2,894.86	4,111.43	5,892.81
Tillsonburg.....	28.50	261,849.04	1,123.8	6,576.20	5,717.89	11,930.53
Toronto.....	21.60	61,709,132.41	298,671.3	1,747,749.95	953,494.05	2,812,793.81
Toronto twp.....	27.50	497,831.19	2,191.9	12,826.46	12,715.55	22,626.38
Trafalgar twp. (area No. 1).....	26.50	81,821.67	359.5	2,103.70	1,830.31	3,728.02
Trafalgar twp. (area No. 2).....	27.50	25,925.62	109.5	640.77	638.52	1,181.17
Wallaceburg.....	31.50	524,820.66	2,035.5	11,911.24	11,776.25	23,919.67
Wardsville.....	57.50	12,133.23	33.5	196.03	515.35	553.48
Waterdown.....	27.50	49,170.00	221.1	1,293.82	1,043.56	2,233.45
Waterford.....	27.50	88,295.66	387.0	2,264.62	1,995.11	3,971.73
Waterloo.....	22.50	748,644.08	3,666.4	21,454.86	14,238.21	34,094.36
Watford.....	45.50	86,778.97	261.5	1,530.23	3,247.15	3,950.97
Welland.....	19.50	959,018.64	5,519.1	32,296.40	15,844.05	43,582.54
Wellesley.....	45.50	34,688.22	98.2	574.64	968.99	1,579.58
West Lorne.....	36.50	37,978.70	137.7	805.79	1,337.23	1,728.31
Weston.....	22.50	754,772.68	3,749.6	21,941.72	13,869.32	34,162.17
Wheatley.....	48.50	53,691.12	144.6	846.16	1,171.60	2,443.16
Windsor.....	26.00	8,214,173.33	36,965.0	216,309.98	135,068.93	374,258.89
Woodbridge.....	30.50	103,275.44	431.8	2,526.79	2,086.43	4,678.90
Woodstock.....	23.50	1,221,289.34	5,937.4	34,744.18	24,228.09	55,651.26
Wyoming.....	47.50	25,554.42	68.5	400.84	902.89	1,135.69
York, East, twp....	27.50	1,255,744.53	6,044.4	35,370.32	49,522.60	57,238.17
York North twp....	27.50	875,329.06	3,827.4	22,396.99	22,754.34	39,873.41
Zurich.....	57.50	34,470.95	82.4	482.18	1,165.38	1,567.90
Ontario Reformatory.....		63,651.32	296.6	1,735.63	1,349.94	2,900.13
Toronto Transportation Com....		74,854.60	367.8	2,152.27	1,355.16	3,388.64
Sandwich, Windsor & Amherst- burg Rly. Co.....		538,876.43	2,377.8	13,914.29	9,175.83	24,626.26
Totals—Municipalities.....		145,405,504.73	704,625.9	4,123,295.04	2,598,883.88	6,619,074.02
Totals—Rural power districts....		9,664,425.53	39,618.3	231,836.31	230,800.44	436,270.51
Totals—Companies.....		43,687,773.31	239,926.7	1,403,991.26	894,409.45	1,991,289.80
Totals—Local distribution systems.....		1,381,172.22	4,748.8	27,788.80	73,051.41	62,188.42
Non-operating capital.....		200,138,875.79 2,040,250.26				
Grand totals.....		202,179,126.05	988,919.7	5,786,911.41	3,797,145.18	9,108,822.75

SYSTEM

N—COST OF POWER

Municipality as the Cost—under Power Commission Act—of Power supplied to from each Municipality, and the amount remaining to be credited supplied to it in the year ended October 31, 1938

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Provision for depreciation and obsolescence	Provision for contingencies	Provision for sinking fund				Credited	Charged
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
232.12	68.14	233.14	3.37	2,612.79	3,842.51	1,229.72	.....
2,711.57	1,195.62	4,207.03	114.16	46,365.14	44,028.80	.....	2,336.34
1,146.41	426.54	1,363.59	26.29	15,861.93	16,570.91	708.98	.....
2,167.24	821.16	2,760.71	59.72	30,033.45	32,027.26	1,993.81	.....
396,866.54	178,267.67	650,875.31	15,872.34	6,755,919.67	6,451,300.80	.....	304,618.87
3,991.08	1,597.31	5,235.70	116.49	59,108.97	60,277.22	1,168.25	.....
672.26	279.43	862.66	19.10	9,495.48	9,527.78	32.30	.....
219.56	89.76	273.32	5.82	3,048.92	3,011.18	.....	37.74
4,609.24	1,708.49	5,534.97	108.17	59,568.03	64,119.75	4,551.72	.....
128.54	39.74	128.08	1.77	1,562.99	1,924.77	361.78	.....
392.31	154.37	516.82	11.75	5,646.08	6,080.88	434.80	.....
702.71	283.52	919.05	20.57	10,157.31	10,642.74	485.43	.....
5,475.47	2,366.35	7,889.38	194.84	85,713.47	82,494.52	.....	3,218.95
878.73	281.62	914.25	13.90	10,816.85	11,898.59	1,081.74	.....
6,053.56	2,863.76	10,084.92	293.32	111,018.55	107,623.16	.....	3,395.39
366.32	106.36	365.51	5.22	3,966.62	4,468.42	501.80	.....
352.86	121.49	399.93	7.32	4,752.93	5,025.97	273.04	.....
5,284.56	2,261.44	7,905.06	199.27	85,623.54	84,365.96	.....	1,257.58
567.91	166.07	565.34	7.68	5,767.92	7,014.26	1,246.34	.....
62,675.85	26,535.26	86,602.81	1,964.44	903,416.16	961,090.12	57,673.96	.....
854.08	332.05	1,082.69	22.95	11,583.89	13,170.60	1,586.71	.....
9,017.01	3,919.70	12,877.60	315.53	140,753.37	139,529.85	.....	1,223.52
263.39	80.09	262.80	3.64	3,049.34	3,252.12	202.78	.....
8,135.11	3,632.46	13,244.81	321.22	167,464.69	166,220.03	.....	1,244.66
6,405.70	2,692.69	9,226.63	203.40	103,553.16	105,254.38	1,701.22	.....
387.07	104.08	362.81	4.38	4,073.80	4,737.94	664.14	.....
491.88	202.75	671.08	15.76	7,367.17	8,007.29	640.12	.....
530.78	224.67	784.12	19.55	8,455.19	10,770.13	2,314.94	.....
4,213.57	1,754.94	5,698.47	126.43	59,509.79	72,454.11	12,944.32	.....
1,009,103.09	438,854.45	1,531,641.57	37,279.07	16,358,131.12	16,099,817.83	250,331.25	508,644.54
80,647.12	30,900.47	100,952.15	2,105.31	1,113,512.31	1,113,512.31	.....	.....
281,537.43	129,096.42	460,780.82	(32,216.50)	5,128,888.68	5,128,888.68	.....	.....
11,695.77	5,390.34	14,412.22	(7,167.88)	187,359.08	187,359.08	.....	.....
1,382,983.41	604,241.68	2,107,786.76	.....	22,787,891.19	22,529,577.90	250,331.25	508,644.54

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Acton.....	Jan. 1913	464. 81	.....	.....	464. 81
Agincourt.....	Nov. 1922	572. 39	.....	.....	572. 39
Ailsa Craig.....	Jan. 1916	616. 74	.....	.....	616. 74
Alvinston.....	April 1922	696. 84	.....	.....	696. 84
Amherstburg.....	Nov. 1925	3,070. 07	.....	.....	3,070. 07
Ancaster twp.....	May 1923	195. 44	.....	.....	195. 44
Arkona.....	Dec. 1926	256. 98	.....	.....	256. 98
Aylmer.....	Mar. 1918	1,437. 03	.....	.....	1,437. 03
Ayr.....	Jan. 1915	438. 21	.....	.....	438. 21
Baden.....	May 1912	478. 50	.....	.....	478. 50
Beachville.....	Aug. 1912	1,032. 30	.....	.....	1,032. 30
Beamsville.....	May 1937	.....	.....	.....	.....
Belle River.....	Dec. 1922	614. 07	.....	.....	614. 07
Blenheim.....	Nov. 1915	1,380. 10	.....	.....	1,380. 10
Blyth.....	July 1924	652. 33	.....	.....	652. 33
Bolton.....	Feb. 1915	770. 21	.....	.....	770. 21
Bothwell.....	Sept. 1915	671. 71	.....	.....	671. 71
Brampton.....	Nov. 1911	6,166. 09	.....	.....	6,166. 09
Brantford.....	Feb. 1914	.....	423. 04	423. 04	.....
Brantford twp.....	May 1924	1,031. 28	.....	.....	1,031. 28
Bridgeport.....	Mar. 1928	312. 22	.....	.....	312. 22
Brigden.....	Jan. 1918	380. 21	.....	.....	380. 21
Brussels.....	July 1924	723. 68	.....	.....	723. 68
Burford.....	June 1915	450. 31	.....	.....	450. 31
Burgessville.....	Nov. 1916	35. 67	.....	.....	35. 67
Caledonia.....	Oct. 1912	729. 17	.....	.....	729. 17
Campbellville.....	Jan. 1925	170. 12	.....	.....	170. 12
Cayuga.....	Nov. 1924	569. 43	.....	.....	569. 43
Chatham.....	Feb. 1915	7,692. 71	.....	.....	7,692. 71
Chippawa.....	Sept. 1919	422. 29	.....	.....	422. 29
Clifford.....	May 1924	375. 16	.....	.....	375. 16
Clinton.....	Mar. 1914	447. 86	.....	.....	447. 86
Comber.....	May 1915	680. 43	.....	.....	680. 43
Cottam.....	Nov. 1926	199. 31	.....	.....	199. 31
Courtright.....	Dec. 1923	156. 71	.....	.....	156. 71
Dashwood.....	Sept. 1917	532. 81	.....	.....	532. 81
Delaware.....	Mar. 1915	356. 45	.....	.....	356. 45
Delhi.....	May 1938	.....	.....	.....	.....
Dorchester.....	Dec. 1914	400. 52	.....	.....	400. 52
Drayton.....	Mar. 1918	465. 10	.....	.....	465. 10
Dresden.....	April 1915	1,608. 22	.....	.....	1,608. 22
Drumbo.....	Dec. 1914	298. 71	.....	.....	298. 71
Dublin.....	Oct. 1917	94. 96	.....	.....	94. 96
Dundas.....	Jan. 1911	2,052. 72	.....	.....	2,052. 72
Dunnville.....	June 1918	2,926. 33	.....	.....	2,926. 33

SYSTEM

N.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
7.69			648.67		640.98
9.92		429.16		439.08	
10.88		643.62		654.50	
14.25		547.21		561.46	
53.78		2,479.34		2,533.12	
3.46		65.36		68.82	
4.28		428.81		433.09	
24.57		1,917.07		1,941.64	
7.58		259.03		266.61	
7.49		358.01		365.50	
20.36		611.93		632.29	
		860.41		860.41	
10.26		694.85		705.11	
22.95		763.89		786.84	
11.78		736.76		748.54	
13.57		689.39		702.96	
12.04		457.91		469.95	
85.72		4,297.27		4,382.99	
	6.35		7,849.66		7,856.01
16.50		678.96		695.46	
5.53		85.68		91.21	
6.45		726.69		733.14	
12.72		612.69		625.41	
11.24		451.27		462.51	
0.60		156.99		157.59	
13.91		571.20		585.11	
2.87		223.30		226.17	
9.60		635.54		645.14	
108.75		6,643.90		6,752.65	
11.47		124.42		135.89	
6.56		347.94		354.50	
9.18			328.23		319.05
12.02		308.47		320.49	
3.07		193.52		196.59	
2.70		291.94		294.64	
9.52		577.70		587.22	
6.47		375.84		382.31	
		139.54		139.54	
6.80		469.66		476.46	
7.81		574.08		581.89	
23.82		2,003.17		2,026.99	
4.62		381.22		385.84	
1.52		428.91		430.43	
31.72		960.30		992.02	
40.81		2,802.69		2,843.50	

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Dutton.....	Sept. 1915	683.06	.....	.....	683.06
Elmira.....	Nov. 1913	2,471.78	.....	.....	2,471.78
Elora.....	Nov. 1914	573.80	.....	.....	573.80
Embro.....	Jan. 1915	832.31	.....	.....	832.31
Erieau.....	July 1924	751.19	.....	.....	751.19
Erie Beach.....	July 1925	274.99	.....	.....	274.99
Essex.....	Nov. 1923	1,202.61	.....	.....	1,202.61
Etobicoke twp.....	Aug. 1917	3,816.08	.....	.....	3,816.08
Exeter.....	June 1916	1,184.50	.....	.....	1,184.50
Fergus.....	Nov. 1914	4,048.21	.....	.....	4,048.21
Fonthill.....	June 1926	378.72	.....	.....	378.72
Forest.....	Mar. 1917	1,432.46	.....	.....	1,432.46
Forest Hill Village.....	Jan. 1938	.....	.....	.....	.....
Galt.....	May 1911	.....	4,245.49	4,245.49	.....
Georgetown.....	Sept. 1913	3,408.48	.....	.....	3,408.48
Glencoe.....	Aug. 1920	1,621.41	.....	.....	1,621.41
Goderich.....	Feb. 1914	2,248.87	.....	.....	2,248.87
Granton.....	July 1916	461.17	.....	.....	461.17
Guelph.....	Dec. 1910	7,228.44	.....	.....	7,228.44
Hagersville.....	Sept. 1913	1,102.90	.....	.....	1,102.90
Hamilton.....	Feb. 1911	.....	24,843.98	24,843.98	.....
Harriston.....	July 1916	866.31	.....	.....	866.31
Harrow.....	Nov. 1923	1,719.59	.....	.....	1,719.59
Hensall.....	Jan. 1917	893.56	.....	.....	893.56
Hespeler.....	Feb. 1911	2,189.73	.....	.....	2,189.73
Highgate.....	Dec. 1916	331.92	.....	.....	331.92
Humberstone.....	Oct. 1924	334.97	.....	.....	334.97
Ingersoll.....	May 1911	.....	1,607.03	2,000.00	392.97
Jarvis.....	Feb. 1924	564.54	.....	.....	564.54
Kingsville.....	Nov. 1923	1,936.73	.....	.....	1,936.73
Kitchener.....	Jan. 1911	3,282.89	.....	.....	3,282.89
Lambeth.....	April 1915	410.79	.....	.....	410.79
LaSalle.....	Nov. 1925	333.85	.....	.....	333.85
Leamington.....	Nov. 1923	4,027.87	.....	.....	4,027.87
Listowel.....	June 1916	2,829.69	.....	.....	2,829.69
London.....	Jan. 1916	16,256.64	.....	.....	16,256.64
London twp.....	Jan. 1925	1,468.03	.....	.....	1,468.03
Long Branch.....	Jan. 1931	1,047.65	.....	.....	1,047.65
Lucan.....	Feb. 1915	359.03	.....	.....	359.03
Lynden.....	Nov. 1915	405.50	.....	.....	405.50
Markham.....	April 1920	571.23	.....	.....	571.23
Merlin.....	Dec. 1922	330.15	.....	.....	330.15
Merritton.....	Nov. 1920	1,769.77	.....	.....	1,769.77
Milton.....	April 1913	2,823.82	.....	.....	2,823.82
Milverton.....	June 1916	608.47	.....	.....	608.47

SYSTEM

N.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
9.73		724.89		734.62	
43.44		2,856.11		2,899.55	
9.62		495.74		505.36	
13.59		859.65		873.24	
14.07		486.72		500.79	
5.81		267.50		273.31	
20.03		908.90		928.93	
63.57		167.82		231.39	
19.21		1,227.02		1,246.23	
70.55		3,657.84		3,728.39	
5.69		65.47		71.16	
22.51		2,037.87		2,060.38	
		7,308.80		7,308.80	
	71.18		8,485.32		8,556.50
57.41		1,224.39		1,281.80	
29.59		1,030.62		1,060.21	
35.98		2,364.75		2,400.73	
8.44		589.69		598.13	
120.41		1,114.55		1,234.96	
19.07		220.09		239.16	
	359.39		104,747.98		105,107.37
14.72		1,495.76		1,510.48	
29.77		1,362.13		1,391.90	
18.98		758.01		776.99	
34.56		1,222.11		1,256.67	
5.50		189.50		195.00	
5.84		76.25		82.09	
	4.96		847.88		852.84
9.67		130.05		139.72	
33.62		2,014.81		2,048.43	
76.63			10,098.07		10,021.44
7.02		455.62		462.64	
5.52		315.83		321.35	
68.40		6,264.78		6,333.18	
39.21		3,319.04		3,358.25	
269.01			7,096.14		6,827.13
20.43		1,179.51		1,199.94	
17.45		536.66		554.11	
5.63		613.38		619.01	
7.32		274.12		281.44	
9.77		626.45		636.22	
5.34		229.98		235.32	
28.32			4,925.61		4,897.29
43.03		1,494.97		1,538.00	
10.14		621.12		631.26	

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Mimico.....	May 1912	.....	470.10	470.10	.....
Mitchell.....	Sept. 1911	705.06	.....	.....	705.06
Moorefield.....	Mar. 1918	189.66	.....	.....	189.66
Mount Brydges.....	Mar. 1915	434.40	.....	.....	434.40
Newbury.....	Mar. 1921	382.05	.....	.....	382.05
New Hamburg.....	Mar. 1911	1,438.62	.....	.....	1,438.62
New Toronto.....	Feb. 1914	10,339.62	.....	.....	10,339.62
Niagara Falls.....	Dec. 1915	.....	6,277.43	6,277.43	.....
Niagara-on-the-Lake.....	Aug. 1919	.....	36.24	36.24	.....
Norwich.....	May 1912	770.60	.....	.....	770.60
Oil Springs.....	Feb. 1918	820.92	.....	.....	820.92
Otterville.....	Feb. 1916	443.28	.....	.....	443.28
Palmerston.....	July 1916	1,270.31	.....	.....	1,270.31
Paris.....	Feb. 1914	500.90	.....	.....	500.90
Parkhill.....	May 1920	1,047.78	.....	.....	1,047.78
Petrolia.....	May 1916	2,720.01	.....	.....	2,720.01
Plattsville.....	Dec. 1914	449.40	.....	.....	449.40
Point Edward.....	Nov. 1916	3,088.72	.....	.....	3,088.72
Port Colborne.....	Mar. 1920	1,731.99	.....	.....	1,731.99
Port Credit.....	Aug. 1912	1,806.12	.....	.....	1,806.12
Port Dalhousie.....	Nov. 1912	1,310.64	.....	.....	1,310.64
Port Dover.....	Dec. 1921	1,559.81	.....	.....	1,559.81
Port Rowan.....	Nov. 1926	936.24	.....	.....	936.24
Port Stanley.....	April 1912	1,412.11	.....	.....	1,412.11
Preston.....	Jan. 1911	.....	1,354.18	1,354.18	.....
Princeton.....	Jan. 1915	506.22	.....	.....	506.22
Queenston.....	Mar. 1921	46.83	.....	.....	46.83
Richmond Hill.....	June 1925	714.14	.....	.....	714.14
Ridgetown.....	Dec. 1915	1,358.02	.....	.....	1,358.02
Riverside.....	Nov. 1922	593.14	.....	.....	593.14
Rockwood.....	Sept. 1913	380.03	.....	.....	380.03
Rodney.....	Feb. 1917	339.81	.....	.....	339.81
St. Catharines.....	April 1914	.....	9,235.23	9,235.23	.....
St. Clair Beach.....	Nov. 1922	47.86	.....	.....	47.86
St. George.....	Sept. 1915	838.23	.....	.....	838.23
St. Jacobs.....	Sept. 1917	698.40	.....	.....	698.40
St. Marys.....	May 1911	4,195.74	.....	.....	4,195.74
St. Thomas.....	April 1911	5,382.94	.....	.....	5,382.94
Sarnia.....	Dec. 1916	7,100.72	.....	.....	7,100.72
Scarboro twp.....	Aug. 1918	6,594.90	.....	.....	6,594.90
Seaforth.....	Nov. 1911	286.47	.....	.....	286.47
Simcoe.....	Aug. 1915	3,007.12	.....	.....	3,007.12
Springfield.....	Aug. 1917	.....	64.17	66.84	2.67
Stamford twp.....	Nov. 1916	.....	6,627.90	3,401.38	.....
Stouffville.....	Sept. 1923	854.55	.....	.....	854.55

SYSTEM

N.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
	8.19		2,610.06		2,618.25
10.89		694.68		705.57	
3.21		218.57		221.78	
7.40		312.55		319.95	
7.41		146.05		153.46	
24.48		1,339.67		1,364.15	
162.03		3,293.95		3,455.98	
	98.38		12,184.13		12,282.51
	0.56	471.64		471.08	
12.67		575.99		588.66	
13.31		719.91		733.22	
7.74		522.59		530.33	
12.95		1,558.34		1,571.29	
7.63			350.56		342.93
17.81		1,143.02		1,160.83	
44.41		3,254.83		3,299.24	
8.19		469.38		477.57	
51.87		2,804.14		2,856.01	
28.66		799.82		828.48	
25.93		1,545.77		1,571.70	
18.96		737.08		756.04	
28.32		1,412.60		1,440.92	
18.27		1,027.91		1,046.18	
26.80		1,313.38		1,340.18	
	23.00		2,674.21		2,697.21
8.69		475.00		483.69	
0.76		188.53		189.29	
13.55		807.82		821.37	
21.19		557.75		578.94	
8.00		517.28		525.28	
6.52		317.08		323.60	
5.25		629.33		634.58	
	139.67		26,433.28		26,572.95
0.77		37.45		38.22	
14.49		553.77		568.26	
11.94		763.06		775.00	
72.80		3,464.23		3,537.03	
89.67		2,220.92		2,310.59	
119.06		7,004.45		7,123.51	
110.58		5,789.75		5,900.33	
4.68		61.49		66.17	
50.09		1,810.80		1,860.89	
	0.89	103.11		102.22	
	177.51		2,031.69		5,435.72
22.21		968.83		991.04	

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Stratford.....	Jan. 1911	7,882.35			7,882.35
Strathroy.....	Dec. 1914	3,803.29			3,803.29
Streetsville.....	Dec. 1934	542.20			542.20
Sutton.....	Aug. 1923	1,663.67			1,663.67
Swansea.....	Oct. 1937	23.89			23.89
Tavistock.....	Nov. 1916	1,406.06			1,406.06
Tecumseh.....	Nov. 1922		216.79	216.79	
Thamesford.....	Feb. 1914	897.40			897.40
Thamesville.....	Oct. 1915	1,054.54			1,054.54
Thedford.....	May 1922	615.23			615.23
Thorndale.....	Mar. 1914	479.60			479.60
Thorold.....	Jan. 1921	601.09			601.09
Tilbury.....	April 1915	1,840.34			1,840.34
Tillsonburg.....	Aug. 1911	2,316.70			2,316.70
Toronto.....	June 1911		88,717.39	88,717.39	
Toronto twp.....	Aug. 1913	1,044.28			1,044.28
Trafalgar twp. Area 1.....	Nov. 1937		779.83	779.83	
Trafalgar twp. Area 2.....	Nov. 1937		106.63	106.63	
Wallaceburg.....	Feb. 1915	4,712.75			4,712.75
Wardsville.....	June 1921	433.96			433.96
Waterdown.....	Nov. 1911	592.58			592.58
Waterford.....	April 1915	786.97			786.97
Waterloo.....	Dec. 1910		917.45	917.45	
Watford.....	Sept. 1917	1,308.11			1,308.11
Welland.....	Sept. 1917	4,568.39			4,568.39
Wellesley.....	Nov. 1916	554.45			554.45
West Lorne.....	Jan. 1917	88.21			88.21
Weston.....	Jan. 1911	1,866.17			1,866.17
Wheatley.....	Feb. 1924	1,079.22			1,079.22
Windsor.....	Oct. 1914	63,918.06			63,918.06
Woodbridge.....	Dec. 1914	1,677.75			1,677.75
Woodstock.....	Jan. 1911	2,065.27			2,065.27
Wyoming.....	Nov. 1916	357.38			357.38
York East twp.....	July 1925	2,388.58			2,388.58
York North twp.....	Nov. 1923	3,517.72			3,517.72
Zurich.....	Sept. 1917	740.68			740.68
Ontario Reformatory.....	Sept. 1913	431.36			431.36
Toronto Transportation Commission.....	Jan. 1927	1,877.89			1,877.89
Sandwich, Windsor & Amherst-burg Railway.....		13,085.11		5,268.19	
Totals—Municipalities.....		318,234.52	145,922.88	148,360.19	305,545.05
Totals—Rural power districts..		1,231,596.60	227,382.27		134.06
Grand totals.....		1,549,831.12	373,305.15	148,360.19	305,679.11

SYSTEM

N.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
99.34		3,925.49		4,024.83	
67.05		3,149.60		3,216.65	
9.74		561.34		571.08	
32.09		2,225.09		2,257.18	
0.38		6,434.46		6,434.84	
31.74		1,477.58		1,509.32	
	3.47	105.94		102.47	
16.06		813.69		829.75	
18.12		441.53		459.65	
10.37		971.97		982.34	
8.66		1,229.72		1,238.38	
10.01			2,336.34		2,326.33
43.72		708.98		752.70	
37.57		1,993.81		2,031.38	
	1,137.52		304,618.87		305,756.39
26.32		1,168.25		1,194.57	
	14.53	32.30		17.77	
	1.76		37.74		39.50
77.99		4,551.72		4,629.71	
8.41		361.78		370.19	
10.30		434.80		445.10	
12.42		485.43		497.85	
	15.18		3,218.95		3,234.13
22.08		1,081.74		1,103.82	
76.10			3,395.39		3,319.29
9.98		501.80		511.78	
1.40		273.04		274.44	
56.24			1,257.58		1,201.34
16.73		1,246.34		1,263.07	
1,071.72		57,673.96		58,745.68	
27.95		1,586.71		1,614.66	
32.59			1,223.52		1,190.93
5.99		202.78		208.77	
40.57			1,244.66		1,204.09
46.65		1,701.22		1,747.87	
10.64		664.14		674.78	
7.09		640.12		647.21	
32.65		2,314.94		2,347.59	
523.40		12,944.32		31,821.02	
5,622.70	2,062.54	250,331.25	508,644.54	273,673.83	513,300.18
49,260.17	9,095.29	147,220.34	60,634.95	1,418,017.63	287,187.09
54,882.87	11,157.83	397,551.59	569,279.49	1,691,691.46	800,487.27

NIAGARA SYSTEM

SINKING FUND

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder, as part of the cost of power delivered thereto, together with the proportionate share of other sinking funds provided out of other revenues of the system, and interest allowed thereon to October 31, 1938

Municipality	Period of years ending Oct. 31, 1938	Amount	Municipality	Period of years ending Oct. 31, 1938	Amount
		\$ c.			\$ c.
Acton.....	21 years	59,932.14	Dutton.....	18 years	17,521.85
Agincourt.....	14 "	9,553.28	Elmira.....	20 "	69,381.64
Ailsa Craig.....	18 "	13,887.33	Elora.....	19 "	33,275.96
Alvinston.....	15 "	13,876.34	Embro.....	19 "	10,090.36
Amherstburg.....	21 "	46,386.99	Erieau.....	15 "	5,499.34
Ancaster twp.....	15 "	14,586.78	Erie Beach.....	14 "	1,381.67
Arkona.....	12 "	5,376.07	Essex.....	15 "	27,020.54
Aylmer.....	15 "	37,448.90	Etobicoke twp.....	16 "	179,186.29
Ayr.....	19 "	13,127.01	Exeter.....	17 "	36,836.74
Baden.....	21 "	28,770.11	Fergus.....	19 "	53,126.89
Beachville.....	21 "	36,505.85	Fonthill.....	13 "	5,347.28
Beamsville.....	2 "	1,849.12	Forest.....	16 "	28,540.71
Belle River.....	16 "	8,974.71	Forest Hill Village...	15 "	127,029.50
Blenheim.....	18 "	33,233.36	Galt.....	22 "	480,343.84
Blyth.....	15 "	8,490.56	Georgetown.....	20 "	90,031.63
Bolton.....	18 "	15,723.50	Glencoe.....	15 "	17,890.26
Bothwell.....	18 "	15,802.46	Goderich.....	19 "	109,094.80
Brampton.....	22 "	150,875.39	Granton.....	17 "	7,260.84
Brantford.....	19 "	792,512.19	Guelph.....	22 "	585,490.75
Brantford twp.....	14 "	28,937.27	Hagersville.....	20 "	68,638.69
Bridgeport.....	11 "	5,314.14	Hamilton.....	22 "	4,052,095.80
Brigden.....	16 "	10,684.95	Harriston.....	17 "	29,866.18
Brussels.....	15 "	11,522.89	Harrow.....	15 "	21,079.36
Burford.....	18 "	12,104.92	Hensall.....	17 "	14,381.26
Burgessville.....	17 "	4,763.90	Hespeler.....	22 "	98,306.27
Caledonia.....	21 "	19,878.60	Highgate.....	17 "	8,733.74
Campbellville.....	14 "	2,197.15	Humberstone.....	15 "	17,992.32
Cayuga.....	14 "	8,353.35	Ingersoll.....	22 "	163,054.47
Chatham.....	18 "	349,147.70	Jarvis.....	15 "	13,148.41
Chippawa.....	16 "	15,315.84	Kingsville.....	15 "	35,250.80
Clifford.....	15 "	6,062.55	Kitchener.....	22 "	1,136,054.14
Clinton.....	19 "	41,387.80	Lambeth.....	18 "	8,554.77
Comber.....	18 "	16,868.55	LaSalle.....	13 "	12,183.04
Cottam.....	12 "	3,684.52	Leamington.....	15 "	72,830.19
Courtright.....	15 "	5,029.25	Listowel.....	17 "	67,333.92
Dashwood.....	16 "	7,506.54	London.....	22 "	2,160,457.00
Delaware.....	18 "	2,770.18	London twp.....	14 "	16,831.62
Delhi.....	1 "	527.11	Long Branch.....	8 "	20,021.81
Dorchester.....	19 "	6,625.69	Lucan.....	18 "	16,505.43
Drayton.....	15 "	11,032.05	Lynden.....	18 "	11,944.62
Dresden.....	18 "	28,133.99	Markham.....	15 "	16,298.90
Drumbo.....	19 "	5,761.73	Merlin.....	15 "	10,533.16
Dublin.....	16 "	5,098.98	Merritton.....	17 "	121,200.80
Dundas.....	22 "	124,619.32	Milton.....	20 "	89,854.18
Dunnville.....	15 "	54,382.03	Milverton.....	17 "	38,677.60

NIAGARA SYSTEM

SINKING FUND

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder, as part of the cost of power delivered thereto, together with the proportionate share of other sinking funds provided out of other revenues of the system, and interest allowed thereon to October 31, 1938

Municipality	Period of years ending Oct. 31, 1938	Amount	Municipality	Period of years ending Oct. 31, 1938	Amount
		\$ c.			\$ c.
Mimico.....	21 years	123,378.37	Stratford.....	22 years	525,264.74
Mitchell.....	22 "	38,871.03	Strathroy.....	19 "	76,001.55
Moorefield.....	15 "	5,530.21	Streetsville.....	4 "	1,488.75
Mount Brydges.....	18 "	6,662.49	Sutton.....	15 "	13,649.67
Newbury.....	15 "	4,025.16	Swansea.....	13 "	60,734.07
New Hamburg.....	22 "	43,553.89	Tavistock.....	17 "	39,045.42
New Toronto.....	19 "	383,182.07	Tecumseh.....	16 "	22,225.61
Niagara Falls.....	18 "	505,944.49	Thamesford.....	19 "	14,727.30
Niagara-on-the-Lake.....	15 "	27,137.36	Thamesville.....	18 "	15,086.00
Norwich.....	21 "	32,279.19	Theford.....	15 "	8,154.15
Oil Springs.....	15 "	22,067.63	Thorndale.....	19 "	7,512.59
Otterville.....	17 "	7,578.75	Thorold.....	16 "	84,627.36
Palmerston.....	17 "	37,519.01	Tilbury.....	18 "	39,953.95
Paris.....	19 "	98,616.97	Tillsonburg.....	22 "	75,354.93
Parkhill.....	15 "	16,481.83	Toronto.....	22 "	16,197,463.50
Petrolia.....	17 "	89,435.96	Toronto twp.....	20 "	91,801.04
Plattsville.....	19 "	7,876.11	Trafalgar twp. area 1	2 "	2,195.95
Point Edward.....	16 "	49,249.89	Trafalgar twp. area 2	2 "	685.22
Port Colborne.....	17 "	83,172.43	Wallaceburg.....	18 "	161,185.99
Port Credit.....	21 "	34,402.54	Wardsville.....	15 "	3,148.28
Port Dalhousie.....	17 "	30,256.29	Waterdown.....	22 "	19,935.44
Port Dover.....	15 "	21,890.84	Waterford.....	18 "	27,720.56
Port Rowan.....	12 "	5,780.58	Waterloo.....	22 "	224,717.52
Port Stanley.....	21 "	35,008.12	Watford.....	16 "	19,789.86
Preston.....	22 "	229,099.17	Welland.....	16 "	244,653.65
Princeton.....	19 "	7,968.25	Wellesley.....	17 "	14,493.01
Queenston.....	15 "	5,970.31	West Lorne.....	17 "	22,542.40
Richmond Hill.....	14 "	16,280.97	Weston.....	22 "	202,504.98
Ridgetown.....	18 "	36,765.88	Wheatley.....	15 "	11,305.94
Riverside.....	16 "	71,118.28	Windsor.....	19 "	2,627,410.05
Rockwood.....	20 "	9,866.79	Woodbridge.....	19 "	26,117.47
Rodney.....	16 "	11,499.31	Woodstock.....	22 "	340,738.80
St. Catharines.....	17 "	498,408.23	Wyoming.....	17 "	7,162.83
St. Clair Beach.....	16 "	5,814.44	York twp.....	18 "	529,327.79
St. George.....	18 "	12,302.27	York East twp.....	14 "	231,196.11
St. Jacobs.....	16 "	13,685.21	York North twp.....	15 "	115,470.50
St. Marys.....	22 "	116,825.42	Zurich.....	16 "	11,461.36
St. Thomas.....	22 "	426,453.41	Ontario Reformatory	4 "	3,499.42
Sarnia.....	17 "	536,266.17	Toronto Trans. Com.	17 "	164,176.21
Scarboro twp.....	15 "	156,777.70	Sandwich, Windsor & Amherstburg Ry. Co.	16 "	169,523.21
Seaforth.....	22 "	54,433.26			
Simcoe.....	18 "	88,489.70	Total—Municipalities....		\$38,863,526.35
Springfield.....	16 "	8,164.02	Total—Rural power districts		2,251,024.14
Stamford twp.....	17 "	83,563.62			
Stouffville.....	15 "	14,017.09	Grand total.....		\$41,119,550.49

NIAGARA SYSTEM *N.—RURAL OPERATING*

Rural Power Districts

Operating Account for Year Ended October 31, 1938

Revenue from customers in rural power districts	\$2,513,583.83
Cost of power as provided to be paid under Power Commission Act.	\$1,113,512.31
Cost of operation, maintenance and administration.....	642,083.61
Interest.....	402,716.64
Provision for depreciation and obsolescence	175,497.98
Provision for sinking fund.....	93,187.90
	<u>2,426,998.44</u>
Balance.....	<u><u>\$ 86,585.39</u></u>

NIAGARA SYSTEM—RURAL LINES

Statement showing Interest, Depreciation and Obsolescence, Contingencies and Sinking Fund charged by the Commission to the Municipalities which operate the respective rural lines for the year ending October 31, 1938

Operated by	Capital cost	Interest	Provision for depreciation and obsolescence	Provision for contingencies	Provision for sinking fund	Total interest depreciation and obsolescence, contingencies and sinking fund charged
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Milton.....	440.82	21.86	8.82	4.41	7.93	43.02
Welland.....	19,617.60	823.94	392.35	196.18	353.12	1,765.59
Totals.....	20,058.42	845.80	401.17	200.59	361.05	1,808.61

NIAGARA SYSTEM—RURAL LINES

Statement showing the total Sinking Fund in respect of each line, together with interest allowed thereon to October 31, 1938

Lines operated by	Period of years ending October 31, 1938	Amount
		\$ c.
Milton.....	25 years	309.96
Welland.....	26 years	14,825.55
Total.....		15,135.51

GEORGIAN BAY

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual Cost

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse- power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power pur- chased	Operation, main- tenance and adminis- trative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Alliston	51.00	111,607.65	295.3	524.17	4,025.03	4,267.25
Arthur	67.00	66,608.02	142.4	252.77	3,143.59	2,607.34
Barrie	32.50	726,878.56	2,817.7	5,001.57	28,416.84	26,153.78
Beaverton	40.00	61,591.93	211.4	375.25	2,822.78	2,261.91
Beeton	66.00	52,067.41	101.4	179.99	1,614.48	2,056.34
Bradford	55.00	69,747.34	173.6	308.15	2,668.38	2,685.32
Brechin	48.50	20,561.82	56.3	99.94	885.54	781.30
Cannington	40.50	46,975.33	157.1	278.86	2,566.07	1,732.75
Chatsworth	45.00	19,777.18	66.1	117.33	893.88	730.78
Chesley	35.50	145,968.21	501.0	889.30	5,762.85	5,369.80
Coldwater	36.50	83,430.32	302.6	537.13	3,050.77	3,039.69
Collingwood	39.00	422,057.73	1,504.7	2,670.92	15,851.05	15,424.12
Cookstown	50.00	24,280.38	68.6	121.77	957.02	920.32
Creemore	53.00	39,326.04	107.5	190.82	1,632.98	1,496.60
Dundalk	37.00	54,387.03	195.0	346.14	2,490.63	1,985.64
Durham	39.00	100,667.19	328.6	583.28	4,528.66	3,734.03
Elmvale	39.50	43,029.49	150.3	266.79	2,049.87	1,578.21
Elmwood	42.50	17,977.23	56.9	101.00	783.08	670.06
Flesherton	45.50	19,741.21	60.8	107.92	955.84	738.86
Grand Valley	53.00	46,817.98	119.8	212.65	2,247.12	1,796.90
Gravenhurst	25.00	170,560.32	813.7	.....	7,426.85	5,908.72
Hanover	32.00	278,231.24	1,045.0	1,854.93	10,129.70	10,071.97
Holstein	80.00	10,600.90	18.2	32.31	755.28	423.01
Huntsville	28.00	236,943.29	996.5	.....	10,955.22	8,443.20
Kincardine	46.50	226,905.19	634.0	1,125.38	7,677.48	8,600.34
Kirkfield	56.00	12,141.05	25.8	45.80	394.61	474.97
Lucknow	53.50	89,605.41	218.0	386.96	3,257.73	3,459.21
Markdale	37.00	45,275.29	162.2	287.91	1,964.00	1,653.22
Meaford	40.50	175,478.49	568.1	1,008.41	7,440.55	6,493.35
Midland	31.50	674,216.04	2,621.1	4,652.59	26,450.35	24,254.70
Mildmay	47.00	37,567.37	107.5	190.82	1,464.23	1,422.57
Mount Forest	44.00	143,269.86	430.7	764.52	6,421.30	5,381.40
Neustadt	65.00	15,462.74	33.9	60.17	508.46	603.64
Orangeville	44.00	208,521.38	599.9	1,064.85	8,264.25	7,887.79
Owen Sound	32.00	992,022.00	3,838.7	6,813.90	39,386.60	35,727.58

SYSTEM

G.B.—COST OF POWER

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of Power supplied to it in the year ended October 31, 1938

costs and fixed charges				Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality Credited (Charged)
Provision for depreciation and obsolescence	Provision for contingencies	Provision for stabilization of rates	Provision for sinking fund				
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
1,467.10	334.71	885.90	1,044.49	6.12	12,554.77	15,062.39	2,507.62
962.96	202.50	427.20	638.19	2.95	8,237.50	9,541.29	1,303.79
7,228.18	2,274.63	8,453.10	6,401.60	58.42	83,988.12	91,574.69	7,586.57
681.63	194.66	634.20	553.64	4.38	7,528.45	8,455.95	927.50
778.55	154.85	304.20	503.33	2.10	5,593.84	6,690.20	1,096.36
944.62	212.07	520.80	657.28	3.60	8,000.22	9,546.57	1,546.35
264.70	65.98	168.90	191.24	1.17	2,458.77	2,730.08	271.31
530.64	148.53	471.30	424.12	3.26	6,155.53	6,361.48	205.95
224.08	67.39	198.30	178.87	1.37	2,412.00	2,973.33	561.33
1,619.72	480.88	1,503.00	1,314.35	10.39	16,950.29	17,784.26	833.97
883.63	273.07	907.80	744.01	6.27	9,442.37	11,046.09	1,603.72
4,537.58	1,334.26	4,514.10	3,775.33	31.19	48,138.55	58,684.56	10,546.01
307.81	79.40	205.80	225.26	1.42	2,818.80	3,429.96	611.16
507.66	123.10	322.50	366.32	2.23	4,642.21	5,699.67	1,057.46
581.90	174.00	585.00	486.02	4.04	6,653.37	7,214.88	561.51
1,160.93	329.20	985.80	913.97	6.81	12,242.68	12,813.83	571.15
470.69	141.37	450.90	386.29	3.12	5,347.24	5,935.47	588.23
211.94	63.53	170.70	164.01	1.18	2,165.50	2,418.90	253.40
237.11	61.78	182.40	180.85	1.26	2,466.02	3,012.04	546.02
625.74	145.35	359.40	439.82	2.48	5,829.46	6,351.59	522.13
1,323.07	533.91	2,441.10	1,446.27	16.87	19,096.79	20,342.08	1,245.29
2,853.80	921.26	3,135.00	2,465.29	21.66	31,453.61	33,440.16	1,986.55
164.81	29.97	54.60	103.54	0.38	1,563.90	1,486.64	(77.26)
2,181.45	719.35	2,989.50	2,066.62	20.66	27,376.00	27,902.44	526.44
2,888.83	689.78	1,902.00	2,105.08	13.14	25,002.03	29,479.14	4,477.11
175.67	36.51	77.40	116.26	0.53	1,321.75	1,444.29	122.54
1,226.70	274.89	654.00	846.70	4.52	10,110.71	12,023.17	1,912.46
484.74	141.53	486.60	404.65	3.36	5,426.01	6,674.14	1,248.13
2,024.63	548.81	1,704.30	1,589.36	11.78	20,821.19	23,007.58	2,186.39
6,689.34	2,051.88	7,863.30	5,936.78	54.34	77,953.28	82,564.18	4,610.90
473.23	121.24	322.50	348.20	2.23	4,345.02	5,050.90	705.88
1,748.13	434.51	1,292.10	1,317.19	8.93	17,368.08	18,948.57	1,580.49
221.32	45.98	101.70	147.75	0.70	1,689.72	2,202.37	512.65
2,617.25	638.82	1,799.70	1,930.68	12.44	24,215.78	26,397.03	2,181.25
9,892.38	3,076.86	11,516.10	8,744.96	79.58	115,237.96	122,839.43	7,601.47

GEORGIAN BAY

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual Cost

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power purchased	Operation, maintenance and administrative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Paisley.....	54.00	50,973.29	124.6	221.17	1,650.00	1,966.61
Penetanguishene....	36.50	203,949.02	707.2	1,255.32	7,398.99	7,492.27
Port Elgin.....	39.00	115,372.97	338.3	600.50	4,230.72	4,350.92
Port McNicoll.....	37.00	24,282.98	78.4	139.16	876.22	902.59
Port Perry.....	46.50	93,671.68	257.4	456.89	4,182.51	3,563.40
Priceville.....	60.00	8,590.12	15.5	27.51	302.86	178.16
Ripley.....	70.00	31,874.59	61.8	109.70	1,257.04	1,259.10
Rosseau.....	88.00	28,089.56	40.4	.....	912.89	1,137.48
Shelburne.....	42.00	72,895.18	222.6	395.13	3,324.60	2,731.75
Southampton.....	39.00	95,480.38	289.1	513.17	3,550.51	3,584.20
Stayner.....	40.00	67,182.42	231.6	411.10	2,796.15	2,469.67
Sunderland.....	54.00	28,367.18	69.7	123.72	1,349.99	1,092.52
Tara.....	42.50	31,359.73	97.1	172.36	1,271.91	1,173.34
Teeswater.....	52.50	49,811.47	125.6	222.95	1,885.33	1,914.82
Thornton.....	60.50	11,698.04	25.2	44.73	480.88	457.49
Tottenham.....	83.00	40,130.91	67.5	119.82	1,339.31	1,604.21
Uxbridge.....	48.50	96,080.65	254.6	451.92	4,045.30	3,672.11
Victoria Harbour...	40.00	20,515.15	64.8	115.02	770.98	765.12
Walkerton.....	34.50	166,972.06	635.7	1,128.40	6,534.76	6,028.83
Waubashene.....	40.00	27,385.14	98.1	174.13	1,113.93	999.98
Warton.....	58.00	121,768.83	277.5	492.58	3,946.42	4,736.15
Windermere.....	60.00	15,898.07	35.7	.....	591.70	598.67
Wingham.....	52.50	155,223.75	371.6	659.61	4,747.83	5,994.95
Woodville.....	54.00	24,062.62	60.9	108.10	1,363.12	923.48
Totals—Municipalities.....		7,071,934.41	24,081.3	39,397.29	279,767.02	260,434.49
Totals—Rural power districts....		1,476,620.79	4,801.4	11,473.96	55,836.68	54,688.53
Totals—Companies.....		328,033.22	1,071.7	1,902.33	11,397.39	12,166.41
Totals—Local distribution systems		253,167.01	493.3	875.63	13,059.22	9,726.04
Non-operating capital.....		9,129,755.43 29,481.64				
Grand totals.....		9,159,237.07	30,447.7	53,649.21	360,060.31	337,015.47

SYSTEM

G.B.—COST OF POWER

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of Power supplied to it in the year ended October 31, 1938

costs and fixed charges				Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality Credited (Charged)
Provision for depreciation and obsolescence	Provision for contingencies	Provision for stabilization of rates	Provision for sinking fund				
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
696.24	161.15	373.80	481.36	2.58	5,552.91	6,730.20	1,177.29
2,245.62	630.87	2,121.60	1,833.87	14.66	22,993.20	25,811.75	2,818.55
1,430.74	353.95	1,014.90	1,064.96	7.01	13,053.70	13,193.74	140.04
282.42	83.08	235.20	220.93	1.63	2,741.23	2,899.52	158.29
1,206.20	280.59	772.20	872.20	5.34	11,339.33	11,970.59	631.26
55.71	16.56	46.50	43.61	0.32	671.23	927.00	255.77
477.21	94.10	185.40	308.19	1.28	3,692.02	4,512.04	820.02
458.11	81.39	121.20	278.42	0.84	2,990.33	3,551.85	561.52
880.46	236.76	667.80	668.64	4.61	8,909.75	9,349.60	439.85
1,160.39	297.21	867.30	877.30	5.99	10,856.07	11,274.12	418.05
742.87	220.36	694.80	604.49	4.80	7,944.24	9,262.57	1,318.33
385.94	86.53	209.10	267.41	1.44	3,516.65	3,765.60	248.95
375.57	104.46	291.30	287.20	2.01	3,678.15	4,125.29	447.14
670.41	171.69	376.80	468.69	2.60	5,713.29	6,595.71	882.42
168.59	38.71	75.60	111.98	0.52	1,378.50	1,522.55	144.05
627.68	116.76	202.50	392.66	1.40	4,404.34	5,603.15	1,198.81
1,261.64	288.33	763.80	898.81	5.28	11,387.19	12,348.06	960.87
242.31	66.89	194.40	187.28	1.34	2,343.34	2,593.63	250.29
1,690.36	531.71	1,907.10	1,475.66	13.18	19,310.00	21,932.45	2,622.45
293.22	93.46	294.30	244.77	2.03	3,215.82	3,923.96	708.14
1,716.23	364.58	832.50	1,159.26	5.75	13,253.47	16,092.35	2,838.88
215.85	49.19	107.10	146.54	0.74	1,709.79	2,141.50	431.71
2,136.78	480.56	1,114.80	1,467.37	7.70	16,609.60	19,511.15	2,901.55
322.76	72.21	182.70	226.04	1.26	3,199.67	3,289.05	89.38
78,935.83	22,047.66	72,243.90	63,745.96	499.19	817,071.34	904,056.78	87,062.70 (77.26)
17,383.02	4,727.89	14,404.20	13,385.99	99.56	171,999.83	171,999.83	.....
3,780.79	1,041.00	.....	2,977.94	(3,045.73)	30,220.13	30,220.13	.....
3,658.41	1,402.86	.....	2,380.63	2,446.98	33,549.77	33,549.77	.....
103,758.05	29,219.41	86,648.10	82,490.52	.....	1,052,841.07	1,139,826.51	87,062.70 (77.26)

GEORGIAN BAY

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Alliston.....	June 1918	1,209.48			1,209.48
Arthur.....	Dec. 1916	565.28		413.23	978.51
Barrie.....	April 1913	3,207.45			3,207.45
Beaverton.....	Nov. 1914	267.72			267.72
Beeton.....	Aug. 1918	358.59			358.59
Bradford.....	Oct. 1918	755.57			755.57
Brechin.....	Jan. 1915		70.43	74.29	3.86
Cannington.....	Nov. 1914	142.05			142.05
Chatsworth.....	Dec. 1915	450.46			450.46
Chesley.....	July 1916	582.09			582.09
Coldwater.....	Mar. 1913	1,195.66			1,195.66
Collingwood.....	Mar. 1913	3,883.56			3,883.56
Cookstown.....	May 1918	180.56			180.56
Creemore.....	Nov. 1914	343.20			343.20
Dundalk.....	Dec. 1915		75.84	75.84	
Durham.....	Dec. 1915		224.25	224.25	
Elmvale.....	June 1913	313.72			313.72
Elmwood.....	April 1918	151.51			151.51
Flesherton.....	Dec. 1915	108.05			108.05
Grand Valley.....	Dec. 1916	300.44			300.44
Gravenhurst.....	Nov. 1915	1,321.16			1,321.16
Hanover.....	Sept. 1916	636.41			636.41
Holstein.....	May 1916		127.37	127.37	
Huntsville.....	Sept. 1916	490.29			490.29
Kincardine.....	Mar. 1921	1,900.45			1,900.45
Kirkfield.....	June 1920	35.43			35.43
Lucknow.....	Jan. 1921	713.15			713.15
Markdale.....	Mar. 1916	223.10			223.10
Meaford.....	Jan. 1924	792.80			792.80
Midland.....	July 1911	2,320.87			2,320.87
Mildmay.....	Dec. 1932	407.59			407.59
Mount Forest.....	Dec. 1915	365.69			365.69
Neustadt.....	Dec. 1918	1,106.12			1,106.12
Orangeville.....	July 1916	388.11			388.11
Owen Sound.....	Dec. 1915	2,417.02			2,417.02

SYSTEM

G.B.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
20.62		2,507.62		2,528.24	
23.61		1,303.79		1,327.40	
52.72		7,586.57		7,639.29	
5.49		927.50		932.99	
6.17		1,096.36		1,102.53	
15.06		1,546.35		1,561.41	
	1.24	271.31		270.07	
2.26		205.95		208.21	
12.12		561.33		573.45	
9.63		833.97		843.60	
17.71		1,603.72		1,621.43	
64.69		10,546.01		10,610.70	
4.39		611.16		615.55	
5.64		1,057.46		1,063.10	
	1.08	561.51		560.43	
	3.56	571.15		567.59	
4.92		588.23		593.15	
2.11		253.40		255.51	
1.48		546.02		547.50	
4.18		522.13		526.31	
22.44		1,245.29		1,267.73	
11.30		1,986.55		1,997.85	
	3.84		77.26		81.10
8.33		526.44		534.77	
31.86		4,477.11		4,508.97	
0.59		122.54		123.13	
12.43		1,912.46		1,924.89	
3.72		1,248.13		1,251.85	
13.47		2,186.39		2,199.86	
39.42		4,610.90		4,650.32	
6.43		705.88		712.31	
6.13		1,580.49		1,586.62	
13.99		512.65		526.64	
6.34		2,181.25		2,187.59	
40.26		7,601.47		7,641.73	

GEORGIAN BAY

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Paisley.....	Sept. 1923	546.38			546.38
Penetanguishene.....	July 1911	1,326.04			1,326.04
Port Elgin.....	Mar. 1931		564.86	564.86	
Port McNicoll.....	Jan. 1915	49.58			49.58
Port Perry.....	Sept. 1922	464.24			464.24
Priceville.....	Mar. 1920	183.97			183.97
Ripley.....	Jan. 1921	132.02			132.02
Rosseau.....	July 1931	96.28			96.28
Shelburne.....	July 1916	94.32			94.32
Southampton.....	Feb. 1931		259.29	259.29	
Stayner.....	Oct. 1913	445.07			445.07
Sunderland.....	Nov. 1914		120.64	120.64	
Tara.....	Feb. 1918	265.44			265.44
Teeswater.....	Dec. 1920	405.57			405.57
Thornton.....	Nov. 1918	40.42		2.83	43.25
Tottenham.....	Oct. 1918	555.35			555.35
Uxbridge.....	Sept. 1922	471.53			471.53
Victoria Harbour.....	July 1914	51.87			51.87
Walkerton.....	Feb. 1931	1,866.19			1,866.19
Waubaushehene.....	Dec. 1914	217.91			217.91
Warton.....	May 1931	1,469.60			1,469.60
Windermere.....	June 1930	322.18			322.18
Wingham.....	Dec. 1920	1,650.03			1,650.03
Woodville.....	Nov. 1914	130.35			130.35
Totals—Municipalities.....		37,917.92	1,442.68	1,862.60	38,337.84
Totals—Rural power districts.....		61,913.10	111,647.98	262.17	
Grand totals.....		99,831.02	113,090.66	2,124.77	38,337.84

SYSTEM

G.B.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
8.74		1,177.29		1,186.03	
21.80		2,818.55		2,840.35	
	8.73	140.04		131.31	
0.79		158.29		159.08	
7.53		631.26		638.79	
4.11		255.77		259.88	
2.17		820.02		822.19	
1.32		561.52		562.84	
1.55		439.85		441.40	
	4.09	418.05		413.96	
6.24		1,318.33		1,324.57	
	1.68	248.95		247.27	
4.62		447.14		451.76	
7.11		882.42		889.53	
0.79		144.05		144.84	
9.88		1,198.81		1,208.69	
7.80		960.87		968.67	
0.78		250.29		251.07	
26.05		2,622.45		2,648.50	
3.41		708.14		711.55	
25.37		2,838.88		2,864.25	
7.96		431.71		439.67	
26.22		2,901.55		2,927.77	
2.06		89.38		91.44	
645.81	24.22	87,062.70	77.26	87,688.13	81.10
2,479.87	4,461.40	8,665.23	40,418.45	66,759.44	149,966.90
3,125.68	4,485.62	95,727.93	40,495.71	154,447.57	150,048.00

GEORGIAN BAY SYSTEM

G.B.—SINKING FUND

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder, as part of the cost of power delivered thereto, together with the proportionate share of other sinking funds provided out of other revenues of the system, and interest allowed thereon to October 31, 1938

Municipality	Period of years ending Oct. 31, 1938	Amount	Municipality	Period of years ending Oct. 31, 1938	Amount
		\$ c.			\$ c.
Alliston.....	15 years	19,510.76	Mildmay.....	6 years	2,073.55
Arthur.....	17 "	16,978.45	Mount Forest.....	18 "	27,365.76
Barrie.....	20 "	125,196.57	Neustadt.....	15 "	5,804.97
Beaverton.....	19 "	18,104.00	Orangeville.....	17 "	37,309.33
Beeton.....	15 "	13,701.27	Owen Sound.....	18 "	174,616.20
Bradford.....	15 "	15,694.62	Paisley.....	14 "	9,344.82
Brechin.....	19 "	6,887.03	Penetanguishene....	22 "	54,827.33
Cannington.....	19 "	13,693.04	Port Elgin.....	8 "	7,763.52
Chatsworth.....	18 "	3,760.62	Port McNicoll.....	19 "	5,411.07
Chesley.....	17 "	31,042.85	Port Perry.....	14 "	14,416.65
Coldwater.....	20 "	12,994.76	Priceville.....	14 "	822.68
Collingwood.....	20 "	119,660.45	Ripley.....	14 "	6,519.08
Cookstown.....	15 "	4,540.92	Rosseau.....	8 "	2,636.55
Creemore.....	19 "	10,362.51	Shelburne.....	17 "	16,422.06
Dundalk.....	18 "	10,633.46	Southampton.....	8 "	6,933.46
Durham.....	18 "	27,269.42	Stayner.....	20 "	14,109.02
Elmvale.....	20 "	13,357.70	Sunderland.....	19 "	9,041.00
Elmwood.....	15 "	3,514.67	Tara.....	15 "	7,309.52
Flesherton.....	18 "	5,817.84	Teeswater.....	14 "	10,461.94
Grand Valley.....	17 "	10,452.75	Thornton.....	15 "	2,885.19
Gravenhurst.....	18 "	22,884.94	Tottenham.....	15 "	9,169.54
Hanover.....	17 "	71,129.41	Uxbridge.....	14 "	15,217.55
Holstein.....	17 "	2,354.00	Victoria Harbour....	19 "	5,689.23
Huntsville.....	17 "	49,876.98	Walkerton.....	8 "	12,852.23
Kincardine.....	14 "	35,154.02	Waubausheene.....	19 "	3,527.16
Kirkfield.....	14 "	2,777.48	Wiarton.....	8 "	10,314.99
Lucknow.....	14 "	16,495.19	Windermere.....	9 "	1,880.32
Markdale.....	17 "	8,657.55	Wingham.....	14 "	30,710.52
Meaford.....	14 "	24,456.63	Woodville.....	19 "	8,868.19
Midland.....	20 "	189,935.15			
			Totals—Municipalities.....		1,421,198.47
			Totals—Rural power districts..		209,752.25
			Grand total.....		1,630,950.72

GEORGIAN BAY SYSTEM *G.B.—RURAL OPERATING*

Rural Power Districts

Operating Account for Year Ending October 31, 1938

Revenue.....	\$365,266.27
Cost of power as provided to be paid under Power Commission Act...	\$171,999.83
Cost of operation, maintenance and administration.....	110,990.34
Interest.....	67,455.23
Provision for depreciation and obsolescence.....	30,063.24
Provision for sinking fund.....	16,510.85
	<u>397,019.49</u>
Balance.....	<u>\$ 31,753.22</u>

GEORGIAN BAY SYSTEM—RURAL LINES

Statement showing Interest, Depreciation and Obsolescence, Contingencies and Sinking Fund charged by the Commission to the Municipalities which operate the respective rural lines for the year ending October 31, 1938

Operated by	Capital cost	Interest	Provision for depreciation and obsolescence	Provision for contingencies	Provision for sinking fund	Total interest, depreciation and obsolescence, contingencies and sinking fund charged
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Brechin.....	922.02	48.22	18.44	9.22	16.60	92.48
Flesherton.....	1,915.15	107.44	38.30	19.15	34.47	199.36
Totals....	2,837.17	155.66	56.74	28.37	51.07	291.84

GEORGIAN BAY SYSTEM—RURAL LINES

Statement showing the total Sinking Fund paid in respect of each line, together with interest allowed thereon to October 31, 1938

Lines operated by	Period of years ending October 31, 1938	Amount
		\$ c.
Brechin.....	20 years	459.52
Flesherton.....	21 years	845.33
Total.....		1,304.85

EASTERN ONTARIO

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual Cost

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power purchased	Operation, maintenance and administrative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Alexandria.....	55.00	77,025.04	188.5	1,183.31	2,150.40	3,504.96
Apple Hill.....	44.00	10,774.59	36.2	227.25	417.27	489.99
Athens.....	45.00	35,953.69	101.2	635.29	953.02	1,567.41
Bath.....	66.00	15,809.23	33.1	207.79	410.51	719.19
Belleville.....	28.00	830,668.31	5,169.9	32,454.21	30,412.82	37,690.46
Bloomfield.....	47.00	31,024.40	94.9	595.74	1,146.92	1,408.16
Bowmanville.....	31.00	435,600.53	2,156.5	13,537.50	17,243.94	19,723.14
Brighton.....	32.00	58,721.88	277.6	1,742.64	2,207.86	2,662.38
Brockville.....	26.00	496,215.71	3,330.5	20,907.32	19,234.44	22,447.41
Cardinal.....	29.00	35,467.73	225.2	1,413.70	1,731.32	1,587.78
Carleton Place.....	29.00	228,998.60	1,482.8	9,308.32	8,618.28	11,565.77
Chesterville.....	34.00	44,331.16	226.0	1,418.72	2,015.31	2,013.54
Cobden.....	65.00	26,467.95	61.0	382.93	994.70	1,203.71
Cobourg.....	31.00	314,720.49	1,607.4	10,090.50	12,439.94	14,262.98
Colborne.....	33.00	34,058.94	158.9	997.50	1,463.82	1,544.30
Deseronto.....	45.00	45,433.69	143.4	900.20	2,139.31	2,064.89
Finch.....	47.00	19,147.68	70.0	439.43	745.72	870.54
Hastings.....	42.00	25,489.91	88.8	557.44	1,122.75	1,157.25
Havelock.....	46.50	47,982.53	138.5	869.44	1,721.57	2,179.89
Kemptville.....	35.00	73,290.05	332.7	2,088.54	2,688.02	3,330.42
Kingston.....	27.00	1,530,742.20	8,185.3	51,383.48	51,566.56	69,433.79
Lakefield.....	39.00	65,984.19	257.3	1,615.21	2,202.78	2,994.38
Lanark.....	40.00	20,825.54	74.7	468.93	739.69	929.68
Lancaster.....	62.00	17,002.80	38.1	239.17	533.80	773.79
Lindsay.....	34.00	473,373.48	2,269.2	14,244.98	19,853.11	21,440.59
Madoc.....	40.50	48,973.30	164.8	1,034.54	2,366.34	2,225.35
Marmora.....	40.50	26,884.55	109.0	684.25	963.91	1,220.90
Martintown.....	43.50	6,884.67	30.4	190.84	413.16	312.89
Maxville.....	51.00	27,935.43	84.5	530.45	968.97	1,270.68
Morrisburg.....	32.50	20,281.24	56.2	352.80	698.02	504.51
Napanee.....	30.00	212,818.02	1,113.7	6,991.29	8,272.78	9,654.34
Newcastle.....	32.50	29,279.01	134.6	844.96	1,375.27	1,327.59
Norwood.....	35.50	20,597.38	92.4	580.04	958.89	934.11
Oshawa.....	30.50	2,717,850.58	13,483.8	84,644.98	97,582.65	123,109.42
Ottawa.....	20.50	931,993.89	9,314.3	58,470.81	44,952.50	42,200.13

SYSTEM

E.O.—COST OF POWER

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of Power supplied to it in the year ended October 31, 1938

costs and fixed charges				Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality Credited (Charged)
Provision for depreciation and obsolescence	Provision for contingencies	Provision for stabilization of rates	Provision for sinking fund				
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
1,329.12	248.18	188.50	809.78	129.59	9,543.84	10,369.28	825.44
174.90	41.56	36.20	113.21	24.89	1,525.27	1,590.92	65.65
575.65	115.63	101.20	362.13	69.57	4,379.90	4,553.96	174.06
256.89	47.79	33.10	166.16	22.75	1,864.18	2,185.15	320.97
7,370.28	2,801.74	5,169.90	8,707.96	3,554.07	128,161.44	144,755.75	16,594.31
449.62	100.01	94.90	325.34	65.24	4,185.93	4,457.91	271.98
4,830.27	1,500.05	2,156.50	4,556.82	1,482.49	65,030.71	66,850.94	1,820.23
675.96	215.86	277.60	615.11	190.84	8,588.25	8,883.72	295.47
6,159.06	1,989.25	3,330.50	5,186.23	2,289.57	81,543.78	86,593.66	5,049.88
447.15	150.04	225.20	366.84	154.81	6,076.84	6,531.01	454.17
3,458.89	979.10	1,482.80	2,672.14	1,019.36	39,104.66	42,999.75	3,895.09
633.10	169.02	226.00	465.21	155.36	7,096.26	7,682.29	586.03
461.71	87.73	61.00	278.10	41.93	3,511.81	3,966.04	454.23
3,408.09	1,111.51	1,607.40	3,295.31	1,105.01	47,320.74	49,828.32	2,507.58
395.85	125.35	158.90	356.79	109.23	5,151.74	5,244.51	92.77
651.79	173.88	143.40	477.07	98.58	6,649.12	6,452.68	(196.44)
304.42	67.55	70.00	201.13	48.12	2,746.91	3,289.97	543.06
350.34	89.60	88.80	267.37	61.05	3,694.60	3,728.55	33.95
710.95	160.33	138.50	503.64	95.21	6,379.53	6,438.20	58.67
1,098.77	265.48	332.70	769.46	228.72	10,802.11	11,645.62	843.51
15,951.95	5,042.79	8,185.30	16,041.91	5,627.02	223,232.80	221,003.08	(2,229.72)
857.66	220.17	257.30	691.82	176.88	9,016.20	10,034.88	1,018.68
326.54	74.27	74.70	214.79	51.35	2,879.95	2,989.64	109.69
297.33	55.34	38.10	178.78	26.19	2,142.50	2,361.63	219.13
5,384.04	1,580.43	2,269.20	4,953.61	1,559.97	71,285.93	77,152.48	5,866.55
684.25	173.45	164.80	514.14	113.29	7,276.16	6,672.65	(603.51)
342.43	101.47	109.00	282.08	74.93	3,778.97	4,415.13	636.16
103.61	26.68	30.40	72.29	20.90	1,170.77	1,322.74	151.97
463.94	95.62	84.50	293.58	58.09	3,765.83	4,309.91	544.08
159.11	48.66	56.20	116.56	38.63	1,974.49	1,825.67	(148.82)
2,261.31	755.21	1,113.70	2,230.53	765.62	32,044.78	33,412.25	1,367.47
343.85	104.99	134.60	306.72	92.53	4,530.51	4,375.25	(155.26)
246.03	78.43	92.40	215.82	63.52	3,169.24	3,278.97	109.73
30,108.76	9,144.24	13,483.80	28,443.08	9,269.49	395,786.42	411,256.88	15,470.46
8,177.56	4,050.55	9,314.30	9,749.88	6,403.17	183,318.90	190,943.78	7,624.88

EASTERN ONTARIO

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual cost

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse- power supplied in year after correction for power factor	Share of operating		
	To October 31, 1938			Cost of power pur- chased	Operation, main- tenance and adminis- trative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.	\$ c.
Ottawa.....	28.00	964.71	19,415.9	213,575.07	290.56	43.97
Perth.....	26.00	225,908.89	1,403.3	8,809.26	8,590.11	10,254.42
Peterborough.....	39.50	1,511,920.88	9,017.6	56,608.27	52,099.72	68,452.27
Picton.....	32.50	266,344.60	974.8	6,119.34	8,599.09	12,070.69
Port Hope.....		323,946.19	1,705.9	10,708.84	15,600.70	14,678.34
Prescott.....	26.50	136,365.11	904.8	5,679.91	5,745.85	6,068.45
Richmond.....	52.00	16,962.38	49.2	308.85	466.56	771.62
Russell.....	50.00	17,437.60	56.1	352.17	644.54	793.03
Smiths Falls.....	25.00	299,865.52	2,141.8	13,445.22	11,939.35	13,621.03
Stirling.....	27.00	41,919.59	253.1	1,588.85	1,738.18	1,900.28
Trenton.....	24.00	502,256.34	3,303.0	20,734.69	17,243.34	22,757.41
Tweed.....	52.00	67,553.57	206.9	1,298.82	2,981.19	3,070.26
Warkworth.....	40.00	19,168.07	68.9	432.52	723.90	859.60
Wellington.....	38.00	48,863.49	191.9	1,204.66	1,785.08	2,215.28
Westport.....	62.00	37,157.19	80.5	505.34	701.65	1,691.11
Whitby.....	30.50	234,167.12	1,163.6	7,304.54	8,163.64	10,615.14
Williamsburg.....	28.00	26,494.22	162.5	1,020.10	1,246.89	1,202.56
Winchester.....	31.00	48,464.07	265.5	1,666.68	2,196.71	2,200.69
Totals—Municipalities.....		12,864,367.93	92,696.7	673,597.63	484,063.41	583,592.47
Totals—Rural power districts....		1,617,315.04	8,303.1	54,683.20	59,321.95	72,598.51
Totals—Companies.....		3,599,944.71	20,478.3	155,259.23	127,978.27	163,318.92
Totals—Local electric distribution systems.....		589,868.13	2,034.4	12,771.03	49,246.65	26,341.13
Totals—Local gas distribution system.....		25,913.01	.....	.....	14,995.01	1,184.38
Totals—Pulp mill.....		280,192.97	1,421.4	8,922.88	28,296.99	12,734.95
Non-operating capital.....		18,977,601.79 64,382.02				
Grand Totals.....		19,041,983.81	124,933.9	905,233.97	763,902.28	859,770.36

SYSTEM

E.O.—COST OF POWER

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of Power supplied to it in the year ended October 31, 1938

costs and fixed charges				Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality Credited (Charged)
Provision for depreciation and obsolescence	Provision for contingencies	Provision for stabilization of rates	Provision for sinking fund				
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
19.29	4.82	.....	10.16	.....	213,943.87	213,943.87	.....
2,970.10	890.71	1,403.30	2,369.17	964.70	36,251.77	39,293.08	3,041.31
14,045.10	4,998.23	9,017.60	15,815.15	6,199.19	227,235.53	234,457.99	7,222.46
3,568.01	848.37	974.80	2,788.80	670.13	35,639.23	38,503.23	2,864.00
3,415.66	1,124.78	1,705.90	3,391.27	1,172.73	51,798.22	55,442.53	3,644.31
1,660.13	551.71	904.80	1,402.05	622.01	22,634.91	23,977.83	1,342.92
283.99	55.62	49.20	178.28	33.82	2,147.94	2,556.62	408.68
285.81	59.85	56.10	183.22	38.57	2,413.29	2,805.36	392.07
3,642.42	1,230.10	2,141.80	3,146.99	1,472.41	50,639.32	53,545.37	2,906.05
385.00	140.23	253.10	439.04	173.99	6,618.67	6,833.90	215.23
4,128.40	1,685.76	3,303.00	5,257.85	2,270.66	77,381.11	79,270.84	1,889.73
980.35	214.67	206.90	709.35	142.23	9,603.77	10,760.94	1,157.17
255.01	65.13	68.90	198.60	47.37	2,651.03	2,756.65	105.62
631.77	164.20	191.90	511.82	131.92	6,836.63	7,293.10	456.47
654.34	122.51	80.50	390.71	55.34	4,201.50	4,991.98	790.48
2,594.43	755.95	1,163.60	2,452.51	799.92	33,849.73	35,489.02	1,639.29
347.60	113.08	162.50	277.84	111.71	4,482.28	4,550.67	68.39
671.45	196.24	265.50	508.44	182.52	7,888.23	8,229.43	341.20
139,990.04	45,213.92	73,280.80	134,832.64	50,377.19	2,184,948.10	2,278,105.58	96,491.23 (3,333.75)
19,547.60	5,853.77	8,213.80	16,773.14	5,646.60	242,638.57	242,638.57	.....
39,676.82	13,388.69	.....	44,515.52	(42,154.89)	501,982.56	501,982.56	.....
8,810.99	1,387.62	.....	3,886.72	12,565.33	115,009.47	115,009.47	.....
.....	.....	.....	.....	(3,287.94)	12,891.45	12,891.45	.....
2,006.47	783.95	.....	2,383.67	(23,146.29)	31,982.62	31,982.62	.....
210,031.92	66,627.95	81,494.60	202,391.69	.....	3,089,452.77	3,182,610.25	96,491.23 (3,333.75)

EASTERN ONTARIO

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Alexandria.....	Jan. 1921	882.15			882.15
Apple Hill.....	April 1921	142.15			142.15
Athens.....	Jan. 1929	534.54			534.54
Bath.....	Nov. 1931	264.09			264.09
Belleville.....	April 1929	9,602.51			9,602.51
Bloomfield.....	April 1919		112.99	112.99	
Bowmanville.....	Oct. 1931	5,140.25			5,140.25
Brighton.....	Nov. 1929	638.61			638.61
Brockville.....	April 1915	5,163.51			5,163.51
Cardinal.....	July 1930	557.54			557.54
Carleton Place.....	May 1919	4,760.88			4,760.88
Chesterville.....	April 1914	974.23			974.23
Cobden.....	Nov. 1935	367.46			367.46
Cobourg.....	Jan. 1932	3,001.01			3,001.01
Colborne.....	Jan. 1933	370.34			370.34
Deseronto.....	Jan. 1931	756.18			756.18
Finch.....	Feb. 1928	717.46			717.46
Hastings.....	June 1931	343.98			343.98
Havelock.....	Feb. 1921	537.93			537.93
Kemptville.....	Dec. 1921	1,380.27			1,380.27
Kingston.....	Nov. 1937				
Lakefield.....	Aug. 1920	1,842.27			1,842.27
Lanark.....	Sept. 1921	253.80			253.80
Lancaster.....	May 1921	279.88			279.88
Lindsay.....	Mar. 1928	6,700.53			6,700.53
Madoc.....	Jan. 1930	48.93			48.93
Marmora.....	Jan. 1921	465.15			465.15
Martintown.....	May 1921	9.43			9.43
Maxville.....	Feb. 1921	630.06			630.06
Morrisburg.....	June 1938				
Napanee.....	Nov. 1929	3,709.34			3,709.34
Newcastle.....	Jan. 1937	38.50			38.50
Norwood.....	Feb. 1921	242.27			242.27
Oshawa.....	Feb. 1929	34,065.12			34,065.12
Ottawa.....	Jan. 1914	3,084.00			3,084.00

SYSTEM

E.O.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
15.02	825.44	.....	840.46	.....
2.48	65.65	.....	68.13	.....
9.41	174.06	.....	183.47	.....
2.69	320.97	.....	323.66	.....
161.01	16,594.31	.....	16,755.32	.....
.....	1.88	271.98	.....	270.10	.....
85.62	1,820.23	.....	1,905.85	.....
10.64	295.47	.....	306.11	.....
70.17	5,049.88	.....	5,120.05	.....
9.71	454.17	.....	463.88	.....
71.43	3,895.09	.....	3,966.52	.....
20.55	586.03	.....	606.58	.....
6.04	454.23	.....	460.27	.....
49.99	2,507.58	.....	2,557.57	.....
5.72	92.77	.....	98.49	.....
13.28	196.44	.....	183.16
13.84	543.06	.....	556.90	.....
4.75	33.95	.....	38.70	.....
8.78	58.67	.....	67.45	.....
18.30	843.51	.....	861.81	.....
.....	2,229.72	.....	2,229.72
33.22	1,018.68	.....	1,051.90	.....
3.87	109.69	.....	113.56	.....
6.04	219.13	.....	225.17	.....
113.29	5,866.55	.....	5,979.84	.....
0.80	603.51	.....	602.71
8.01	636.16	.....	644.17	.....
0.18	151.97	.....	152.15	.....
11.35	544.08	.....	555.43	.....
.....	148.82	.....	148.82
65.80	1,367.47	.....	1,433.27	.....
0.39	155.26	.....	154.87
3.77	109.73	.....	113.50	.....
563.71	15,470.46	.....	16,034.17	.....
49.34	7,624.88	.....	7,674.22	.....

EASTERN ONTARIO

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Perth.....	Feb. 1919	2,481.21	.....	.....	2,481.21
Peterborough.....	Mar. 1913	14,225.40	.....	.....	14,225.40
Pictou.....	April 1919	1,191.54	.....	.....	1,191.54
Port Hope.....	Nov. 1929	4,169.39	.....	.....	4,169.39
Prescott.....	Dec. 1913	1,473.94	.....	.....	1,473.94
Richmond.....	Aug. 1928	381.21	.....	.....	381.21
Russell.....	Feb. 1926	528.61	.....	.....	528.61
Smiths Falls.....	Sept. 1918	1,967.10	.....	.....	1,967.10
Stirling.....	Jan. 1930	265.57	.....	.....	265.57
Trenton.....	Sept. 1931	3,641.01	.....	.....	3,641.01
Tweed.....	Dec. 1930	1,171.84	.....	.....	1,171.84
Warkworth.....	Oct. 1923	339.05	.....	.....	339.05
Wellington.....	April 1919	418.86	.....	.....	418.86
Westport.....	Nov. 1931	860.74	.....	.....	860.74
Whitby.....	Jan. 1926	2,271.73	.....	.....	2,271.73
Williamsburg.....	April 1915	150.99	.....	.....	150.99
Winchester.....	Jan. 1914	819.33	.....	.....	819.33
Totals—Municipalities.....		123,861.89	112.99	112.99	123,861.89
Totals—Rural power districts.....		171,378.98	86,265.16	129.55	.....
Totals.....		295,240.87	86,378.15	242.54	123,861.89

SYSTEM

E.O.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
42.15	3,041.31	.....	3,083.46	.....
236.96	7,222.46	.....	7,459.42	.....
20.24	2,864.00	.....	2,884.24	.....
62.60	3,644.31	.....	3,706.91	.....
30.04	1,342.92	.....	1,372.96	.....
9.01	408.68	.....	417.69	.....
14.35	392.07	.....	406.42	.....
32.98	2,906.05	.....	2,939.03	.....
4.66	215.23	.....	219.89	.....
60.65	1,889.73	.....	1,950.38	.....
20.63	1,157.17	.....	1,177.80	.....
6.01	105.62	.....	111.63	.....
6.70	456.47	.....	463.17	.....
16.10	790.48	.....	806.58	.....
35.60	1,639.29	.....	1,674.89	.....
2.12	68.39	.....	70.51	.....
12.93	341.20	.....	354.13	.....
2,052.93	1.88	96,491.23	3,333.75	98,527.81	3,319.28
6,855.15	3,446.29	30,346.01	22,604.72	201,832.67	105,439.15
8,908.08	3,448.17	126,837.24	25,938.47	300,360.48	108,758.43

EASTERN ONTARIO SYSTEM

E.O.—SINKING FUND

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder, as part of the cost of power delivered thereto, together with its proportionate share of other sinking funds provided out of other revenues of the system, and interest allowed thereon to October 31, 1938

Municipality	Period of years ending Oct. 31, 1938	Amount	Municipality	Period of years ending Oct. 31, 1938	Amount
		\$ c.			\$ c.
Alexandria.....	14 years	26,692.13	Napanee.....	9 years	33,041.35
Apple Hill.....	14 "	2,815.18	Newcastle.....	2 "	720.60
Athens.....	10 "	4,977.16	Norwood.....	10 "	4,895.29
Bath.....	7 "	1,618.55	Oshawa.....	10 "	415,387.59
Belleville.....	10 "	135,803.85	Ottawa.....	23 "	149,442.15
Bloomfield.....	10 "	4,985.86	Perth.....	14 "	58,508.56
Bowmanville.....	7 "	43,860.54	Peterborough.....	10 "	245,063.64
Brighton.....	9 "	8,885.98	Picton.....	10 "	42,540.96
Brockville.....	18 "	145,339.54	Port Hope.....	9 "	42,894.67
Cardinal.....	9 "	4,090.60	Prescott.....	19 "	41,124.86
Carleton Place.....	14 "	66,856.86	Richmond.....	11 "	2,233.48
Chesterville.....	19 "	23,997.27	Russell.....	13 "	4,715.82
Cobden.....	3 "	606.64	Smiths Falls.....	15 "	85,454.09
Cobourg.....	7 "	32,471.66	Stirling.....	9 "	6,958.53
Colborne.....	6 "	2,663.53	Trenton.....	7 "	57,270.55
Deseronto.....	8 "	5,407.46	Tweed.....	8 "	7,184.38
Finch.....	11 "	3,493.86	Warkworth.....	10 "	3,126.30
Hastings.....	8 "	2,763.88	Wellington.....	10 "	8,214.32
Havelock.....	10 "	10,135.66	Westport.....	7 "	3,522.94
Kemptville.....	14 "	17,314.44	Whitby.....	10 "	40,993.17
Kingston.....	1 "	20,157.74	Williamsburg.....	18 "	5,312.30
Lakefield.....	10 "	10,347.42	Winchester.....	19 "	16,916.99
Lanark.....	14 "	5,257.21			
Lancaster.....	14 "	5,336.57	Totals—Municipalities.....		1,956,505.16
Lindsay.....	10 "	74,555.13	Totals—Rural power districts..		381,803.24
Madoc.....	9 "	5,998.61			
Marmora.....	10 "	4,460.92	Grand totals.....		2,338,308.40
Martintown.....	14 "	1,763.11			
Maxville.....	14 "	8,180.44			
Morrisburg.....	1 "	144.82			

EASTERN ONTARIO SYSTEM *E.O.—RURAL OPERATING*

Rural Power Districts

Operating Account for Year Ending October 31, 1938

Revenue.....	\$624,335.18	
Cost of power as provided to be paid under Power Commission Act . . .	\$242,638.57	
Cost of operation, maintenance and administration.....	174,693.02	
Interest.....	119,796.53	
Provision for depreciation and obsolescence.....	51,788.09	
Provision for sinking fund.....	27,677.68	
		<u>616,593.89</u>
Balance.....	\$ 7,741.29	<u><u></u></u>

THUNDER BAY

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual Cost

Municipality	Interim rates per horsepower collected by Commission during year	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Share of operating	
	To October 31, 1938			Operation, maintenance and administrative expenses	Interest
	\$ c.	\$ c.		\$ c.	\$ c.
Fort William.....	21.00	2,933,022.99	11,454.8	49,268.92	133,876.44
Port Arthur.....	21.00	8,443,411.87	33,268.2	139,727.33	385,383.07
Township of Nipigon.....	30.00	36,778.00	161.6	1,578.34	1,677.94
Totals—Municipalities.....		11,413,212.86	44,884.6	190,574.59	520,937.45
Totals—Rural power districts.....		70,448.77	254.8	1,895.55	3,216.48
Totals—Companies and local distribution systems.....		8,107,286.45	30,185.4	157,523.08	367,828.97
Non-operating capital.....		19,590,948.08			
		123,152.25			
Grand totals.....		19,714,100.33	75,324.8	349,993.22	891,982.90

THUNDER BAY

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1938, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		\$ c.	\$ c.	\$ c.	\$ c.
Fort William.....	Oct. 1926	.....	1,177.96	1,177.96	.....
Port Arthur.....	Dec. 1910	7,047.62	.....	.....	7,047.62
Township of Nipigon.....	Jan. 1925	525.59	.....	.....	525.59
Total—Municipalities.....		7,573.21	1,177.96	1,177.96	7,573.21
Total—Rural power districts.....		2,304.02	6,752.84	.....	.....
Grand total.....		9,877.23	7,930.80	1,177.96	7,573.21

SYSTEM

T.B.—COST OF POWER

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of Power supplied to it in the year ended October 31, 1938

costs and fixed charges			Revenue received in excess of cost of power sold to private companies (Credit)	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Provision for depreciation and obsolescence	Provision for contingencies	Provision for sinking fund				Credited	Charged
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
25,837.74	13,655.86	30,772.41	6,301.23	247,110.14	241,051.05		6,059.09
73,916.00	39,285.88	88,582.89	18,300.67	708,594.50	698,631.11		9,963.39
300.57	171.34	385.69	88.90	4,024.98	4,848.14	823.16	
100,054.31	53,113.08	119,740.99	(24,690.80)	959,729.62	944,530.30	823.16	16,022.48
652.82	329.79	739.32	(140.16)	6,693.80	6,693.80		
57,630.27	32,409.50	162,090.62	24,830.96	802,313.40	802,313.40		
158,337.40	85,852.37	282,570.93		1,768,736.82	1,753,537.50	823.16	16,022.48

SYSTEM

T.B.—CREDIT OR CHARGE

supplied to it to October 31, 1937, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
114.31	21.30		6,059.09		6,080.39
8.99		823.16	9,963.39	832.15	9,849.08
123.30	21.30	823.16	16,022.48	832.15	15,929.47
92.16	270.11	921.49	1,820.66	3,317.67	8,843.61
215.46	291.41	1,744.65	17,843.14	4,149.82	24,773.08

THUNDERBAY SYSTEM

T.B.—SINKING FUND

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder, as part of the cost of power delivered thereto, together with the proportionate share of other sinking funds provided out of other revenues of the system, and interest allowed thereon to October 31, 1938

Municipality	Period of years ending October 31, 1938	Amount
		\$ c.
Fort William.....	12 years	538,784.70
Port Arthur.....	12 "	1,787,337.70
Township of Nipigon.....	12 "	4,284.37
Totals—Municipalities.....		2,330,406.77
Totals—Rural power districts.....		9,481.92
Grand totals.....		2,339,888.69

MANITOULIN AND NIPISSING

Rural Power Districts

Operating Account for Year Ending October 31, 1938

Revenue.....	\$26,684.59
Cost of power as provided to be paid under Power Commission Act.....	\$12,809.00
Cost of operation, maintenance and administration.....	5,591.67
Interest.....	4,393.78
Provision for depreciation and obsolescence.....	1,524.93
Provision for sinking fund.....	838.69
	<u>25,158.07</u>
Balance.....	<u>\$ 1,526.52</u>

MANITOULIN AND NIPISSING

Statement showing the net Credit or Charge in respect of power supplied to October 31, respect of power supplied in the year ending October 31, 1938, and the accumulated

	Net credit or charge at October 31, 1937		Cash receipts and payments on account of such credits and charges; also adjustments made during the year	
	Credit	Charge	Credited	Charged
	\$ c.	\$ c.	\$ c.	\$ c.
Manitoulin.....		1,580.13		42.66
Nipissing.....	14,914.22			
Total.....	14,914.22	1,580.13		42.66

THUNDER BAY SYSTEM

T.B.—RURAL OPERATING

Rural Power Districts

Operating Account for Year Ending October 31, 1938

Revenue.....	\$18,029.54
Cost of power as provided to be paid under Power Commission Act.....	\$6,693.80
Cost of operation, maintenance and administration.....	5,926.75
Interest.....	3,785.44
Provision for depreciation and obsolescence.....	1,652.62
Provision for sinking fund.....	870.10
	<u>18,928.71</u>
Balance.....	<u>\$ 899.17</u>

MANITOULIN AND NIPISSING RURAL POWER DISTRICTS

Statement showing Sinking Fund paid in the periods mentioned hereunder, as part
of the Cost of Power delivered and interest allowed thereon to
October 31, 1938

Rural power districts	Total
Manitoulin.....	2,449.09
Nipissing.....	<u>\$2,433.57</u>
Total.....	<u>\$4,882.66</u>

RURAL POWER DISTRICTS

1937, the interest added during the year; also the net amount credited or charged in
amount standing as a credit or charge at October 31, 1938

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1938		Accumulated amount standing as a credit or charge on October 31, 1938	
Credited	Charged	Credited	Charged	Credit	Charge
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
..... 596.57	..... 63.21	..... 1,893.85	..... 296.03 71.30	..... 17,333.34	..... 1,982.03
596.57	63.21	1,893.85	367.33	17,333.34	1,982.03

NORTHERN ONTARIO PROPERTIES

(Operated by The Hydro-Electric Power Commission of Ontario)

FINANCIAL ACCOUNTS

For the Year ended October 31, 1938

Relating to Power Properties which are held and operated by the Commission in trust for the Province of Ontario, and which are situated in the following Northern Districts:

Nipissing	Sudbury	Abitibi	Patricia	St. Joseph
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STATEMENTS

Balance Sheet as at October 31, 1938

Operating Account for the Year ended October 31, 1938

Schedules supporting the Balance Sheet as at October 31, 1938

Fixed Assets—By Districts

Depreciation and Obsolescence Reserves

Contingency Reserves

Sinking Fund Reserves

NORTHERN ONTARIO

Held and Operated by The Hydro-Electric Power

Balance Sheet as at

ASSETS

FIXED ASSETS:

Nipissing district.....	\$1,723,670.98	
Sudbury district.....	4,192,257.97	
Abitibi district.....	27,998,323.17	
Patricia district.....	1,360,152.45	
St. Joseph district.....	714,611.87	
Kenogami River:		
Long Lac diversion.....	1,021,253.44	
		<u>\$37,010,269.88</u>

CURRENT ASSETS:

Employees' Working Funds.....	5,425.00	
Hydro-Electric Power Commission of Ontario—Current		
Account.....	2,444,261.46	
Sundry Accounts Receivable.....	27,670.83	
Power Accounts Receivable.....	313,143.67	
Interest Accrued.....	9,727.08	
Consumers' deposits—securities:		
Bonds at par value.....	\$503,000.00	
Stocks at market value.....	27,500.00	
		<u>530,500.00</u>
Prepayments.....	43,740.59	
		<u>3,374,468.63</u>

INVENTORIES:

Maintenance Materials and Supplies.....	65,581.08	
Maintenance Tools and Equipment.....	62,305.43	
		<u>127,886.51</u>

DEFERRED ASSETS:

Work in Progress—deferred work orders.....	440.84	
--	--------	--

UNAMORTIZED DISCOUNT ON DEBENTURES.....	529,223.33	
---	------------	--

SINKING FUND INVESTMENTS.....	828,955.51	
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\$41,871,244.70

PROPERTIES

Commission of Ontario in trust for the Province of Ontario

October 31, 1938.

LIABILITIES AND RESERVES

LONG-TERM LIABILITIES:

Funded debt in the hands of the public.....	\$29,500,000.00	
Advances from the Province of Ontario for capital expenditures	6,370,637.25	
Purchase Agreements—Abitibi district:		
Transformer stations and Transmission Lines.....	35,236.60	
		<u>\$35,905,873.85</u>

CURRENT LIABILITIES:

Accounts payable.....	137,801.94	
Consumers' deposits.....	576,382.72	
Debenture interest accrued.....	108,333.32	
Miscellaneous interest accrued.....	329.78	
		<u>822,847.76</u>

RESERVES:

Depreciation and obsolescence.....	1,755,942.75	
Contingencies.....	610,079.25	
Miscellaneous.....	2,931.27	
		<u>2,368,953.27</u>

SINKING FUND RESERVES:

Represented by:		
Provincial advances repaid through sinking funds.....	1,828,250.15	
Available balance.....	836,901.27	
		<u>2,665,151.42</u>

SURPLUS ACCOUNT:

Total deficits to November, 1937.....	966,670.40	
Less—Advances from Province of Ontario for		
operating deficits to October 31, 1934....	\$453,656.61	
Adjustment re settlement of power agreement		
claim prior to November 1, 1937.....	513,013.79	
		<u>966,670.40</u>

Net Income for the year ended October 31, 1938.....	108,418.40	
		<u>\$41,871,244.70</u>

Auditors' Certificate

We have examined the Accounts of the Northern Ontario Properties for the year ended the 31st October, 1938, and report that, in our opinion, the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the affairs of Northern Ontario Properties at the 31st October, 1938, according to the best of our information and the explanations given to us and as shown by the books and records of the Properties. We have obtained all the information and explanations we have required.

OSCAR HUDSON AND Co.,

Dated at Toronto, Ontario,
31st March, 1939.

Chartered Accountants,
Auditors.

NORTHERN ONTARIO

EMBRACING THE NIPISSING, SUDBURY, ABITIBI,

Held and Operated by The Hydro-Electric
In Trust for the

Operating Account for the Year

COST OF OPERATION

Power purchased.....	\$ 1,682.58
Costs of operation and maintenance, including the portion of administrative office expense chargeable to the operation of these properties.....	690,041.11
Interest on capital investment in generation and transmission equipment.....	1,257,254.94
Provision for depreciation of generation and transmission equipment.....	307,021.57
Provision for contingencies.....	76,101.45
Provision for sinking fund.....	962,438.79
Total costs of operation.....	<u>\$3,294,540.44</u>
Operating surplus for year.....	<u>108,418.40</u>
	<u><u>\$3,402,958.84</u></u>

PROPERTIES

PATRICIA (EAR FALLS) AND ST. JOSEPH DISTRICTS

Power Commission of Ontario
Province of Ontario

Ended October 31, 1938.

REVENUE FOR PERIOD

Power sold to private companies and customers.....	\$3,394,926.38
Power sold to rural power districts.....	8,032.46

\$3,402,958.84

NORTHERN ONTARIO PROPERTIES

Held and Operated by The Hydro-Electric Power Commission of Ontario
in Trust for the Province of Ontario
Fixed Assets at October 31, 1938

District	Net capital expendi- tures in the year	Fixed Assets			Total
		Under con- struction	In service		
			Non- depreciable including lands and water rights	Depreciable	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
NIPISSING:					
Power Plants:					
South river:					
Nipissing.....	33.00	24.50	11,099.60	239,087.34	250,211.44
Bingham Chute.....	41.38		12,093.60	227,839.43	239,933.03
Elliott Chute.....	5.39		119,307.09	335,149.71	454,456.80
Storage Dams.....	1,600.00			76,122.70	76,122.70
Miscellaneous.....				6,390.46	6,390.46
Intangible.....			69,478.34		69,478.34
	1,679.77	24.50	211,978.63	884,589.64	1,096,592.77
Transformer Stations.....	498.77			19,610.73	19,610.73
Transmission Lines.....	16,782.89			200,732.22	200,732.22
Local Systems.....	10,821.09		22,649.50	384,085.76	406,735.26
	28,784.98	24.50	234,628.13	1,489,018.35	1,723,670.98
SUDBURY:					
Power Plants:					
Wahnapitae river:					
Coniston.....	144,643.16	32,667.78	13,200.00	635,038.11	680,905.89
McVittie.....	14,847.06		13,200.00	405,906.12	419,106.12
Stinson.....	75.91		33,000.00	639,767.84	672,767.84
Storage Dam.....	25.00			194,895.00	194,895.00
Intangible.....	100.00		830,514.53		830,514.53
Sturgeon river:					
Crystal Falls and Storage Dams.....	805,231.91		43,882.17	771,522.93	815,405.10
	964,571.22	32,667.78	933,796.70	2,647,130.00	3,613,594.48
Transformer Stations.....	23,021.84	1,425.07		107,790.23	109,215.30
Transmission Lines.....	9,534.22	6,507.23		416,140.88	422,648.11
Local Systems.....	43,204.24	12,064.00		34,736.08	46,800.08
	1,040,331.52	52,664.08	933,796.70	3,205,797.19	4,192,257.97
ABITIBI:					
Power Plants:					
Abitibi river:					
Abitibi Canyon.....	46,176.94	69,188.31	5,471,312.35	14,167,602.04	19,708,102.70
Frederickhouse river:					
Frederickhouse Dam..	616,659.70		71,297.27	1,068,714.03	1,140,011.30
	662,836.64	69,188.31	5,542,609.62	15,236,316.07	20,848,114.00
Transformer Stations.....	101,109.39	66,397.86		1,165,907.83	1,232,305.69
Transmission Lines.....	117,878.17	27,511.91	625,261.62	5,205,333.00	5,858,106.53
Local Systems.....	15,560.29	3,406.92		56,390.03	59,796.95
	897,384.49	166,505.00	6,167,871.24	21,663,946.93	27,998,323.17

NORTHERN ONTARIO PROPERTIES

Held and Operated by The Hydro-Electric Power Commission of Ontario
in Trust for the Province of Ontario
Fixed Assets at October 31, 1938

District	Net capital expendi- tures in the year	Fixed Assets			Total
		Under con- struction	In service		
			Non- depreciable including lands and water rights	Depreciable	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
PATRICIA:					
Power Plants:					
English river:					
Ear Falls.....	39,172.12	84.93		1,100,260.75	1,100,345.68
Transformer Stations.....	980.76	939.87		6,135.21	7,075.08
Transmission Lines.....	241,917.49	166,031.33		76,564.91	242,596.24
Local Systems.....	10,135.45			10,135.45	10,135.45
	292,205.82	167,056.13		1,193,096.32	1,360,152.45
St. JOSEPH:					
Power Plants:					
Albany river:					
Rat Rapids.....	4,997.53		33,459.55	638,917.54	672,377.09
Donation in aid of con- struction.....				80,000.00	80,000.00
	4,997.53		33,459.55	558,917.54	592,377.09
Transformer Stations.....				5,029.02	5,029.02
Transmission Lines.....	151.54	151.54		117,054.22	117,205.76
	5,149.07	151.54	33,459.55	681,000.78	714,611.87
KENOGAMI RIVER:					
Long Lac diversion.....	682,095.35	591,524.65	429,728.79		1,021,253.44

SUMMARY

District	Net capital expenditures in the year	Fixed Assets			Total
		Under construction	In service		
			Non-depreciable including lands and water rights	Depreciable	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Nipissing district	28,784.98	24.50	234,628.13	1,489,018.35	1,723,670.98
Sudbury district	1,040,331.52	52,664.08	933,796.70	3,205,797.19	4,192,257.97
Abitibi district	897,384.49	166,505.00	6,167,871.24	21,663,946.93	27,998,323.17
Patricia district	292,205.82	167,056.13	.....	1,193,096.32	1,360,152.45
St. Joseph district	5,149.07	151.54	33,459.55	681,000.78	714,611.87
Kenogami river: Long Lac diversion	682,095.35	591,524.65	429,728.79	.....	1,021,253.44
	2,945,951.23	977,925.90	7,799,484.41	28,232,859.57	37,010,269.88

NORTHERN ONTARIO PROPERTIES

Embracing the Nipissing, Sudbury, Abitibi, Patricia (Ear Falls) and St. Joseph Districts

Held and Operated by The Hydro-Electric Power Commission of Ontario
In Trust for The Province of Ontario

Reserve for Depreciation and Obsolescence—October 31, 1938

Total provision for depreciation and obsolescence.....	\$1,500,519.57
Deduct expenditures to October 31, 1937.....	74,945.92
Amount of reserves at October 31, 1937.....	\$1,425,573.65
Added during the year ended October 31, 1938.....	\$307,021.57
Reserve provided in respect of equipment transferred...	90.79
Interest at 4 per cent per annum on monthly balances at the credit of the account.....	56,976.06
	<u>364,088.42</u>
	\$1,789,662.07
Deduct expenditures during the year ended October 31, 1938	33,719.32
Balance carried forward October 31, 1938.....	<u>\$1,755,942.75</u>

Reserve for Contingencies—October 31, 1938

Amount of reserves to October 31, 1937.....	\$ 280,591.65
Additional provision in the period ended October 31, 1937	286,986.21
	<u>\$567,577.86</u>
Added during the year ended October 31, 1938	\$ 76,101.45
Interest at 4 per cent per annum on monthly balances at the credit of the account.....	22,677.88
	<u>98,779.33</u>
	\$ 666,357.19
Deduct:	
Contingencies met with during the year ended October 31, 1938	56,277.94
Balance carried forward October 31, 1938.....	<u>\$ 610,079.25</u>

Reserve for Sinking Fund—October 31, 1938

Total provision for sinking fund to October 31, 1937.....	\$1,638,723.98
Provided in the year ended October 31, 1938	\$962,438.79
Interest at 4 per cent per annum on the monthly balances at the credit of the account.....	65,488.95
	<u>1,027,927.74</u>
	\$2,666,651.72
Deduct:	
Cancellation of amount set up in respect of McMillan Gold Mines transmission line.....	1,500.30
Balance carried forward October 31, 1938.....	<u>\$2,665,151.42</u>

THE HAMILTON STREET RAILWAY COMPANY

(A Subsidiary of The Hydro-Electric Power Commission of Ontario—
Niagara System)

FINANCIAL ACCOUNTS

For the Year ended October 31, 1938

Balance Sheet as at October 31, 1938

Operating and Income Accounts for the Year ended October 31, 1938

THE HAMILTON STREET

(A Subsidiary of The Hydro-Electric Power

Balance Sheet as at

ASSETS

FIXED ASSETS:		
Properties, Road and Equipment, Buses, Franchise, etc.		\$4,202,412.41
CURRENT ASSETS:		
Cash in Bank	\$ 86,984.54	
Conductors' and Employees' Advances	12,000.00	
Hydro-Electric Power Commission of Ontario—Current		
Account	165,992.88	
Accounts receivable	2,865.95	
Prepayments	5,378.54	
		<u>273,221.91</u>
MATERIALS AND SUPPLIES		41,728.70
		<u><u>\$4,517,363.02</u></u>

RAILWAY COMPANY

Commission of Ontario—Niagara System)

October 31, 1938

LIABILITIES

CAPITAL STOCK:

Authorized—80,000 shares at a par value of \$50.00 each . . .	\$4,000,000.00	
Issued—64,100 shares at a par value of \$50.00 each		\$3,205,000.00

CURRENT LIABILITIES:

Accounts payable	20,387.40
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RESERVES:

Depreciation—Road and equipment	1,189,799.37	
Insurance	56,470.74	
Miscellaneous	31,712.87	
		1,277,982.98

SURPLUS	13,992.64
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\$4,517,363.02

Auditors' Certificate

We have examined the Accounts of The Hamilton Street Railway Company for the year ended the 31st October, 1938, and report that, subject to the comments contained in our Annual Report on the Accounts of The Hydro-Electric Power Commission of Ontario, in our opinion the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs at the 31st October, 1938, according to the best of our information and the explanations given to us and as shown by the books of the Company. We have obtained all the information and explanations we have required.

OSCAR HUDSON AND Co.,
Chartered Accountants,
Auditors.

Dated at Toronto, Ontario,
31st March, 1939

THE HAMILTON STREET RAILWAY COMPANY

(A Subsidiary of The Hydro-Electric Power Commission of Ontario—Niagara System)

Operating Statement for the Year Ended October 31, 1938

	Tramways	Buses	Total
	\$ c.	\$ c.	\$ c.
REVENUES:			
Transportation	840,588.22	231,602.22	1,072,190.44
Other operations	4,853.75	824.76	5,678.51
	<u>845,441.97</u>	<u>232,426.98</u>	<u>1,077,868.95</u>
EXPENSES:			
Maintenance of way and structures	63,776.04	.....	63,776.04
Maintenance of equipment	70,083.77	42,583.00	112,666.77
Power purchased	115,157.02	.....	115,157.02
Transportation expenses	255,628.79	114,830.68	370,459.47
Traffic expenses	942.00	.....	942.00
General and miscellaneous expenses	73,795.72	11,516.83	85,312.55
Depreciation provision	100,000.00	6,632.04	106,632.04
Taxes (Municipal and Franchise)	56,119.15	11,217.07	67,336.22
	<u>735,502.49</u>	<u>186,779.62</u>	<u>922,282.11</u>
NET REVENUE FOR YEAR	109,939.48	45,647.36	155,586.84
SURPLUS ACCOUNT AS AT OCTOBER 31, 1938			
Balance at debit October 31, 1937		18,624.74	.....
Net Revenue for year ended October 31, 1938 .....		.....	155,586.84
Dividend		122,969.46	.....
Balance at Credit October 31, 1938		13,992.64	.....
		<u>155,586.84</u>	<u>155,586.84</u>

GUELPH RADIAL RAILWAY

(Operated by The Hydro-Electric Power Commission of Ontario)

FINANCIAL ACCOUNTS

For the Year ended October 31, 1938

Balance Sheet as at October 31, 1938

Operating and Income Accounts for the Year ended October 31, 1938

GUELPH RADIAL

(Operated by The Hydro-Electric

Balance Sheet as at

ASSETS

FIXED ASSETS:

Road and equipment..... \$453,433.33

CURRENT ASSETS:

Cash in banks.....	\$ 20,976.31	
Employees' Working Funds.....	850.00	
Accounts receivable.....	730.70	
Interest accrued.....	1,416.27	
Prepayments.....	813.36	
		24,786.64

MATERIALS AND SUPPLIES..... 3,004.20

RESERVE FUND INVESTMENTS..... 81,760.27

\$562,984.44

RAILWAY

Power Commission of Ontario)

October 31, 1938

LIABILITIES

FUNDED DEBT:		
5% Hydro-Radial debentures due November 1, 1970 (Issued for extensions and betterments, secured by \$300,000.00 5% City of Guelph debentures due May 1, 1971).....		\$300,000.00
THE CORPORATION OF THE CITY OF GUELPH:		
Purchase price of the Railway as per Purchase Agreement dated December 8, 1920.....	\$150,000.00	
Less:—Thirty-five instalments paid thereon to date.....	129,667.25	
		20,332.75
CURRENT LIABILITIES:		
Accounts and Payrolls payable.....	3,380.68	
Overpayment of Deficit—City of Guelph. Amount received from the City of Guelph.....	\$38,084.76	
Less:—Loss for year ended October 31, 1938.....	33,605.32	
	4,479.44	
		7,860.12
UNAMORTIZED PREMIUM ON FUNDED DEBT.....		19,991.73
RESERVES:		
Depreciation—Road and equipment.....	55,178.77	
Miscellaneous.....	2,924.60	
Sinking Fund.....	27,029.22	
Principal instalments paid to the City of Guelph out of revenue....	129,667.25	
		214,799.84
		<u>\$562,984.44</u>

Auditors' Certificate

We have examined the Accounts of the Guelph Radial Railway for the year ended the 31st October, 1938, and report that, subject to the final adjustment for abandoned Street Railway Equipment and to the adequacy of the Reserve for Depreciation, in our opinion, the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Railway's affairs at the 31st October, 1938, according to the best of our information and the explanations given to us and as shown by the books of the Railway. We have obtained all the information and explanations we have required.

Dated at Toronto, Ontario,
31st March, 1939

OSCAR HUDSON AND Co.,
Chartered Accountants,
Auditors.

GUELPH RADIAL RAILWAY

(Operated by The Hydro-Electric Power Commission of Ontario)

Operating Statement for the year ended October 31, 1938

	Freight		Buses		Total	
	\$	c.	\$	c.	\$	c.
REVENUES:						
Transportation.....	8,849.	51	53,624.	71	62,474.	22
Other Operations.....	266.	64	450.	86	717.	50
	<u>9,116.15</u>		<u>54,075.57</u>		<u>63,191.72</u>	
EXPENSES:						
Maintenance of Way and Structures.....	1,379.	95	.....	.....	1,379.	95
Maintenance of Equipment.....	730.	50	5,792.	21	6,522.	71
Power Purchased.....	4,060.	15	.....	.....	4,060.	15
Transportation Expenses.....	1,956.	80	35,260.	78	37,217.	58
General and Miscellaneous.....	1,864.	67	8,565.	11	10,429.	78
Depreciation provision.....	1,247.	87	9,383.	22	10,631.	09
Taxes (Municipal).....	61.	64	184.	91	246.	55
	<u>11,301.58</u>		<u>59,186.23</u>		<u>70,487.81</u>	
NET OPERATING LOSS.....	<u>2,185.43</u>		<u>5,110.66</u>		<u>7,296.09</u>	
NET OPERATING LOSS AS ABOVE.....	.....		7,296.09		.....
NET INTEREST CHARGES.....	.....		12,332.78		.....
PROVISION FOR SINKING FUND.....	.....		3,159.00		.....
PROVISION FOR INSTALMENTS UNDER PURCHASE AGREEMENTS:						
Principal.....	10,431.	65	.....	.....	.....	.....
Interest.....	1,268.	35	.....	.....	.....	.....
	<u>11,700.00</u>		11,700.00		.....
ADJUSTMENT OF MISCELLANEOUS RESERVES—						
NOT REQUIRED.....	.....		.....		882.55	
LOSS FOR YEAR CHARGED TO THE CITY OF GUELPH...	.....		.....		33,605.32	
	.....		<u>34,487.87</u>		<u>34,487.87</u>	

SECTION X

MUNICIPAL ACCOUNTS

and

Statistical Data Relating to Hydro-Electric Distribution Systems Operated by Individual Municipalities Served by The Hydro-Electric Power Commission of Ontario

The Municipal Accounts section of this report presents in summary, and individually, the results of the operation of the local electrical utilities in municipalities owning their own distributing systems and operating with energy supplied by or through The Hydro-Electric Power Commission.

Financial statements prepared from the books of these "Hydro" utilities are submitted herein to show how each has operated during the past year, and its financial status at the present time. Other tables give useful statistical information respecting average costs for the various classes of service and the rates in force.

The books of account of the electrical utilities in all municipalities which have contracted with The Hydro-Electric Power Commission of Ontario for a supply of power are kept in accordance with an accounting system designed by the Commission. During the year 1938, this standard method of accounting was installed in Delhi.

Periodical inspections are made of the books of all "Hydro" electrical utilities and local officials are assisted in the improvement of their office routine with a view to standardizing, as far as possible, the methods employed. In the majority of the smaller municipalities much of the book-keeping for the electrical utilities is performed by representatives of the municipal accounting department of the Commission as a measure of economy. This arrangement insures the correct application of the standard accounting system, with resultant uniformity in classification of revenues and expenditures; secures true reflections of the actual operating results for the year, and greatly enhances the comparative values of the reports.

The first financial statement in this section presents consolidated balance sheets for each year since 1913, and thus shows the march of progress. It combines the balance sheets of the local municipal utilities of all the systems. It is worth noting that the total plant value has increased from \$10,081,469.16 in 1913 to \$98,101,256.69 in 1938, and the total assets from \$11,907,826.86

to \$166,307,613.91. The liabilities have not increased in the same proportion as the assets, rising from \$10,468,351.79 to a maximum of \$52,685,316.86 in 1932, and receding to \$36,551,688.61 in 1938. The reasons for this are the regular fulfilment of debt retirement schedules under serial debenture provisions or by maturity of sinking funds, and also the fact that much of the cost of the increasing plant value has been financed out of reserves and surplus without increasing the capital liabilities of the respective utilities. By this procedure the funds of the systems are used to best advantage. Examination of the results will also show that there is a steady decline in the percentage of net liabilities to total assets; being from 88.0 per cent in 1913 to 22.4 per cent in 1938. The equities in The Hydro-Electric Power Commission's systems automatically acquired through the inclusion of sinking funds as part of the cost of power are not taken into account in arriving at these percentages.

The second financial statement presents consolidated operating reports for each year since "Hydro" service was inaugurated and combines the results from the local municipal utilities of all the systems. After providing for every cost of operation and fixed charges, including the standard provision for depreciation, the combined operating reports show a net surplus of \$1,045,368.48 for 1938. (See also diagrams in Foreword to Report.)

The five statements, "A" to "E", following the two consolidated reports show the financial status of each municipal utility and the results of operations, giving classified information respecting revenue, operating costs, number of consumers and consumption, cost of power to municipalities, power and lighting rates charged to consumers, etc. In statements "A" and "B", the municipalities are arranged alphabetically under each system; in statement "D" the municipalities are arranged in three groups—cities, towns and small municipalities; in statements "C" and "E" all municipalities are arranged alphabetically.

Statement "A" presents the balance sheet of each electrical utility. The plant values are shown under the general subdivisions specified in the standard accounting system and the other items on the positive side of the ledger which are included in total assets are self-explanatory with the exception, perhaps, of the item entitled "equity in H-E.P.C. systems." The sinking fund portion of the cost paid year by year to the Commission for power is for the purpose of ultimately retiring the capital liabilities incurred by the Commission on behalf of the municipalities. A municipality's aggregate equity in the Commission's systems at any time is the total of the sinking fund payments that have been credited to it, together with interest. The total sinking fund equity acquired by these municipalities to the end of 1938 is shown in the consolidated balance sheet to be \$44,254,118.64.

In conformity with a policy of service at cost to the customer, refunds by cash or credit were made during the year in many municipalities from surplus funds accrued to the credit of municipal services, such as street lighting, water works, sewage disposal, etc., and to individual customers. The amounts of the accumulated surplus rebated equalled, in different municipalities, from five per cent to twenty per cent of the previous year's revenue. The total thus returned to customers during the year 1938 amounted in round figures to \$520,000.00.

In each case the balance sheet includes the credit or charge representing the difference between the monthly payments for power at interim rates and the cost of power as ascertained by the Commission upon annual adjustment.

The reserves for depreciation, and the acquired equity in The Hydro-Electric Power Commission's systems, are listed individually and totalled; and under the heading "surplus" are included not only the free operating surplus but the accumulation of sinking fund applicable to debenture debt and also the amount of debentures already retired out of revenue.

The depreciation reserve now amounts to 26.5 per cent of the total depreciable plant, while the depreciation reserve and surplus combined have already reached the sum of \$82,687,021.58, approximately 84.3 per cent of the total plant cost.

Statement "B" shows detailed operating reports for each municipal electrical utility. It gives annual revenues from the various classes of consumers; the items of expenditure which make up the total annual expenditure and the sums set aside for depreciation. The population served by each local utility and the number of consumers of each class are also shown.

The item "power purchased" in this statement includes the debit or credit balances ascertained by the annual adjustment of the cost of power supplied to the municipalities by the Commission.

Of the 288 municipal electric utilities included in this statement, 254 received from consumers revenue sufficient to meet in full all operating expenses, interest, debt retirement instalments, and standard depreciation reserve allocation and to yield an aggregate net surplus of \$1,088,284.09 for the year; 29 were able to defray out of revenue all such charges except a portion of the standard depreciation allocation aggregating \$39,006.61, in the case of five utilities the revenue was less than the total operating expenses, interest and debt retirement instalments by \$1,472.69.

Statement "C" shows the installation of street lights in each municipality together with the rates approved by this Commission, the revenue for 1938, and the cost per capita in each municipality.

Statement "D" presents statistics relating to the supply of electrical energy to consumers in Ontario municipalities served by the Commission. It shows the revenue, kilowatt-hour consumption, number of consumers, average monthly consumption, average monthly bill and the net average cost per kilowatt-hour both for domestic and for commercial light service in each municipality. For power service this statement shows the revenue, the number of consumers and the average horsepower supplied by the municipal utility.* For further reference to this informative statement, consult the special introduction to it on page 378.

Statement "E" presents the cost per horsepower of the power provided for and delivered to the municipalities by the Commission, and the local rates to consumers in force in the respective municipalities, during the year 1938, for domestic service, for commercial light service and for power service.

*The statistics include retail power only. Wholesale industrial power as supplied by the Commission direct, is reported in Section IX.

CONSOLIDATED

YEAR.....	1913	1914	1915
Number of municipalities included.....	45	69	99
ASSETS	\$ c.	\$ c.	\$ c.
Lands and buildings.....	626,707.34	791,732.20	873,838.18
Substation equipment.....	1,090,875.69	1,476,087.84	1,582,062.56
Distribution system—overhead.....	2,690,834.74	3,422,763.93	4,234,626.05
Distribution system—underground.....	644,514.24	807,153.53	928,420.77
Line transformers.....	615,546.20	787,613.52	981,754.70
Meters.....	840,606.64	1,172,475.11	1,418,165.08
Street lighting equipment—regular.....	900,614.80	1,071,255.37	1,309,628.49
Street lighting equipment—ornamental.....	62,765.34	270,386.55	197,644.82
Miscellaneous construction expenses.....	866,551.89	2,062,035.90	1,701,182.66
Steam or hydraulic plant.....	1,401,175.28	420,108.33	461,651.60
Old plant.....	341,277.00	619,513.12	1,184,372.86
Total plant.....	10,081,469.16	12,901,125.40	14,873,347.77
Bank and cash balance.....	450,887.97	422,350.12	284,653.96
Securities and investments.....			
Accounts receivable.....	344,487.95	561,873.08	602,920.69
Inventories.....	540,274.58	615,226.76	726,556.76
Sinking fund on local debentures.....	431,747.27	625,217.03	868,983.78
Equity in H-E.P.C. systems.....			
Other assets.....	58,959.93	123,410.97	326,801.11
Total assets.....	11,907,826.86	15,249,203.36	17,683,264.07
LIABILITIES			
Debenture balance.....	8,711,308.37	10,678,078.36	11,831,811.03
Accounts payable.....	1,553,711.45	1,682,150.29	2,040,038.01
Bank overdraft.....	160,919.16	228,622.50	292,106.44
Other liabilities.....	42,412.81	113,838.66	37,388.31
Total liabilities.....	10,468,351.79	12,702,689.81	14,201,343.79
RESERVES			
For equity in H-E.P.C. systems.....			
For depreciation.....	478,145.88	850,618.07	1,337,739.73
Other reserves.....			
Total reserves.....	478,145.88	850,618.07	1,337,739.73
SURPLUS			
Debentures paid.....	202,751.26	320,129.10	394,466.22
Local sinking fund.....	431,747.27	625,217.03	868,983.78
Operating surplus.....	326,830.66	750,549.35	880,730.55
Total surplus.....	961,329.19	1,695,895.48	2,144,180.55
Total liabilities, reserves and surplus....	11,907,826.86	15,249,203.36	17,683,264.07
Percentage of net debt to total assets...	88.0	88.3	80.3

NOTE—In computing the “percentage of net debt to total assets” the ornamental street lighting capital, sinking fund on local debentures, and equity in H-E.P.C. systems, are excluded

BALANCE SHEET

1916	1917	1918	1919	1920	1921
128	143	166	191	195	215
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
1,335,936.33	1,546,241.41	1,859,888.69	1,995,545.83	2,175,568.24	3,230,985.63
1,934,626.12	2,471,293.82	2,820,488.70	2,915,125.56	3,231,050.80	5,403,689.90
4,832,353.27	6,090,073.42	6,627,237.39	7,445,820.31	8,579,881.49	8,397,361.48
1,095,709.62	1,157,059.90	1,216,288.59	1,206,296.88	1,313,369.29	1,401,135.97
1,179,132.07	1,483,839.44	1,772,691.35	2,073,113.45	2,560,581.59	3,077,649.83
1,711,299.49	1,999,095.48	2,238,143.70	2,587,566.32	3,053,135.20	3,552,076.79
1,251,057.13	1,237,734.69	1,200,625.65	1,206,638.71	1,269,006.98	1,335,997.13
306,388.95	361,975.74	531,502.61	546,497.68	557,678.13	610,586.70
2,059,263.42	2,184,015.84	2,395,096.50	2,530,101.08	2,697,636.12	3,030,134.16
864,500.01	896,753.20	214,575.75	986,200.57	757,194.47	704,848.46
759,748.66	649,852.51	1,476,413.00	805,959.89	864,298.39	912,388.55
17,330,015.07	20,077,935.45	22,352,951.93	24,298,866.28	27,059,400.70	31,656,854.60
1,061,029.90	340,026.50	391,194.91	462,437.23	943,858.12	900,842.34
695,152.23	1,285,097.33	1,124,018.44	627,076.53	341,855.88	477,678.69
764,504.59	1,261,398.36	972,996.96	1,921,166.69	2,022,538.88	2,155,788.62
1,166,017.73	1,337,578.96	1,663,298.05	1,032,569.75	1,400,671.89	1,504,596.28
342,215.87	125,240.05	444,787.63	1,925,455.77	2,244,004.34	2,541,718.35
			369,071.89	577,584.06	795,570.51
			86,216.05	25,447.07	78,929.84
21,358,935.39	24,427,276.65	26,949,247.92	30,722,860.19	34,615,360.94	40,111,979.23
15,058,641.57	15,593,773.61	17,209,217.70	18,133,462.44	19,268,072.04	21,619,220.99
969,187.75	1,537,669.11	1,007,727.79	1,420,926.66	1,840,137.54	1,887,567.93
178,413.26	886,177.94	576,816.49	403,235.57	514,671.99	989,099.98
491,874.90	429,104.20	350,013.21	670,271.90	642,293.65	938,368.84
16,698,117.48	18,446,724.86	19,143,775.19	20,627,896.57	22,265,175.22	25,434,257.74
			373,871.89	577,584.06	800,249.05
1,843,804.68	2,463,723.83	3,133,550.17	3,750,162.28	4,788,645.03	5,491,858.93
1,843,804.68	2,463,723.83	3,133,550.17	4,124,034.17	5,366,229.09	6,292,107.98
549,778.59	694,797.90	920,076.56	1,328,657.68	1,440,156.52	1,860,079.53
1,165,785.94	1,340,615.38	1,662,602.69	1,754,020.37	2,246,474.47	2,541,718.35
1,101,448.70	1,481,414.68	2,089,243.31	2,888,251.40	3,297,325.64	3,983,815.63
2,817,013.23	3,516,827.96	4,671,922.56	5,970,929.45	6,983,956.63	8,385,613.51
21,358,935.39	24,427,276.65	26,949,247.92	30,722,860.19	34,615,360.94	40,111,979.23
78.4	75.5	71.0	67.9	65.4	64.7

from assets; and the total liabilities are reduced by the amount of the local sinking fund reserve, and the liability in respect to the ornamental street lighting capital, which amount is included in other liabilities.

CONSOLIDATED

YEAR.....	1922	1923	1924
Number of municipalities included.....	226	235	248
ASSETS	\$ c.	\$ c.	\$ c.
Lands and buildings.....	3,334,522.68	4,488,054.93	4,561,648.92
Substation equipment.....	5,046,857.98	6,015,919.75	6,800,238.00
Distribution system—overhead.....	11,165,330.24	13,135,581.76	14,182,190.33
Distribution system—underground....	1,598,053.02	1,959,120.41	2,873,446.13
Line transformers.....	3,618,684.73	4,211,655.89	4,456,669.02
Meters.....	4,033,689.52	4,548,933.73	5,149,629.71
Street lighting equipment—regular....	1,419,016.05	1,061,473.85	1,134,491.77
Street lighting equipment—ornamental.	666,084.50	708,431.22	728,298.08
Miscellaneous construction expenses....	3,261,495.74	3,681,274.88	4,168,262.21
Steam or hydraulic plant.....	565,158.54	566,619.86	4,196,803.45
Old plant.....	7,997,947.87	8,051,496.28	5,587,420.31
Total plant.....	42,706,840.87	48,428,562.56	53,839,097.93
Bank and cash balance.....	1,164,336.24	1,276,140.06	1,748,912.34
Securities and investments.....	443,938.18	1,153,424.47	1,329,622.58
Accounts receivable.....	3,874,317.14	3,198,769.34	3,898,751.89
Inventories.....	1,738,795.96	1,819,711.62	1,745,628.16
Sinking fund on local debentures.....	3,416,231.45	3,896,261.28	4,520,723.06
Equity in H-E.P.C. systems.....	1,543,434.12	2,929,603.94	5,420,567.58
Other assets.....	238,940.13	190,071.63	250,292.77
Total assets.....	55,126,834.09	62,892,544.90	72,753,596.31
LIABILITIES			
Debenture balance.....	30,454,186.12	33,056,501.29	38,005,162.50
Accounts payable.....	3,699,292.52	3,708,781.76	3,117,224.08
Bank overdraft.....	456,706.69	680,714.59	162,100.71
Other liabilities.....	586,203.02	1,517,828.47	1,780,564.27
Total liabilities.....	35,196,388.35	38,963,826.11	43,065,051.56
RESERVES			
For equity in H-E.P.C. systems.....	1,543,434.12	2,929,603.94	5,420,567.58
For depreciation.....	6,512,813.92	7,328,858.69	8,097,834.68
Other reserves.....			
Total reserves.....	8,056,248.04	10,258,462.63	13,518,402.26
SURPLUS			
Debentures paid.....	3,104,591.15	2,852,038.38	3,530,610.35
Local sinking fund.....	3,416,231.45	3,896,261.28	4,520,723.06
Operating surplus.....	5,353,375.10	6,921,956.50	8,118,809.08
Total surplus.....	11,874,197.70	13,670,256.16	16,170,142.49
Total liabilities, reserves and surplus....	55,126,834.09	62,892,544.90	72,753,596.31
Percentage of net debt to total assets....	63.3	62.6	61.4

BALANCE SHEET—Continued

1925	1926	1927	1928	1929
247	251	252	256	260
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
5,768,855.99	6,111,162.54	6,486,426.89	7,024,646.76	7,469,451.46
8,543,166.55	9,505,501.77	15,088,905.14	16,866,186.21	18,102,792.13
16,837,535.57	18,654,240.54	16,689,462.41	17,688,050.68	18,108,016.82
3,388,837.09	3,689,569.95	3,278,382.58	3,559,288.16	4,823,369.60
5,079,754.23	5,538,605.24	5,985,521.37	6,549,674.64	7,312,742.17
5,533,483.92	5,963,162.51	6,346,660.59	6,839,802.90	7,405,478.91
1,256,916.53	1,309,608.30	1,399,314.06	1,486,646.24	1,594,183.25
893,186.48	1,103,660.23	1,184,035.82	1,203,706.65	1,458,349.64
4,485,110.96	3,456,777.71	3,360,671.09	3,394,626.92	3,483,487.78
568,912.49	628,909.57	607,320.00	619,880.93	489,097.57
4,549,142.46	4,655,422.59	5,095,555.90	5,032,089.26	5,093,378.75
56,904,902.27	60,616,620.95	65,522,255.85	70,264,599.35	75,340,348.08
1,700,145.30	2,136,290.79	3,014,832.48	1,342,367.07	858,733.68
1,095,662.92	1,400,316.43	1,696,237.66	1,837,140.51	2,001,088.81
3,417,558.86	3,508,817.87	3,715,770.72	4,097,446.13	4,683,201.97
1,711,504.13	1,397,667.83	1,412,729.41	1,220,186.10	1,365,033.58
5,202,451.70	5,599,675.01	6,398,909.77	7,071,273.69	7,753,613.88
7,551,588.70	8,046,868.53	10,143,205.66	12,326,097.56	14,754,865.40
137,280.05	33,151.81	31,942.45	153,275.04	152,260.86
77,721,093.93	82,739,409.22	91,935,884.00	98,312,385.45	106,909,146.26
37,919,225.01	39,602,533.48	42,891,361.57	42,597,175.78	42,930,127.74
3,139,067.92	3,118,684.78	2,988,621.90	3,074,634.25	3,132,145.03
226,147.82	163,725.53	252,362.52	253,143.81	412,056.69
1,075,914.83	1,087,795.08	1,154,810.24	1,258,610.23	1,621,378.17
42,360,355.58	43,972,738.87	47,287,156.23	47,183,564.07	48,095,707.63
7,551,588.70	8,046,868.53	10,143,205.66	12,326,097.56	14,754,865.40
8,699,437.68	9,360,322.27	10,319,889.05	11,140,795.68	11,911,154.49
1,157,147.20	947,970.23	1,002,916.69	1,117,257.63	1,437,371.26
17,408,173.58	18,355,161.03	21,466,011.40	24,584,150.87	28,103,391.15
4,440,138.34	5,493,879.83	6,648,767.38	7,928,907.61	9,194,253.59
5,202,451.70	5,599,675.01	6,398,909.77	7,071,273.69	7,962,121.20
8,309,974.73	9,317,954.48	10,135,039.22	11,544,489.21	13,553,672.69
17,952,564.77	20,411,509.32	23,182,716.37	26,544,670.51	30,710,047.48
77,721,093.93	82,739,409.22	91,935,884.00	98,312,385.45	106,909,146.26
57.2	55.5	54.2	50.8	47.8

CONSOLIDATED

YEAR.....	1930	1931	1932
Number of municipalities included.....	267	275	280
ASSETS	\$ c.	\$ c.	\$ c.
Lands and buildings.....	7,936,974.31	8,407,664.48	9,503,743.78
Substation equipment.....	19,485,056.28	21,013,956.74	22,288,781.68
Distribution system—overhead.....	19,220,326.48	19,918,355.76	20,866,767.32
Distribution system—underground.....	4,932,189.05	5,361,627.24	5,820,056.75
Line transformers.....	7,953,090.23	8,649,875.07	9,392,662.62
Meters.....	7,840,948.07	8,106,202.88	8,403,251.67
Street lighting equipment—regular.....	1,780,785.67	2,205,613.18	2,257,618.20
Street lighting equipment—ornamental.....	1,520,891.01	1,456,742.91	1,545,354.93
Miscellaneous construction expenses.....	3,996,747.77	3,827,132.05	4,120,926.11
Steam or hydraulic plant.....	139,587.28	458,374.05	498,231.69
Old plant.....	5,322,690.14	7,146,437.96	4,989,654.97
Other plants not distributed.....			200,000.00
Total plant.....	80,129,286.29	86,551,982.32	89,887,049.72
Bank and cash balance.....	2,722,250.12	2,738,319.67	3,185,442.00
Securities and investments.....	1,909,439.11	1,999,846.42	2,059,325.10
Accounts receivable.....	4,481,006.92	3,957,972.78	3,683,059.42
Inventories.....	1,242,994.51	1,276,531.01	1,232,209.52
Sinking fund on local debentures.....	8,396,255.47	8,735,050.84	9,099,210.61
Equity in H-E.P.C. systems.....	17,346,372.44	20,103,275.76	23,066,129.81
Other assets.....	173,030.05	174,879.28	163,637.79
Total assets.....	116,400,634.91	125,537,858.08	132,376,063.97
LIABILITIES			
Debenture balance.....	45,091,808.06	44,594,400.03	45,133,305.97
Accounts payable.....	3,001,186.21	5,382,306.13	3,512,724.58
Bank overdraft.....	405,663.14	312,575.54	298,910.20
Other liabilities.....	1,642,771.59	1,909,986.13	3,740,376.11
Total liabilities.....	50,141,429.00	52,199,267.83	52,685,316.86
RESERVES			
For equity in H-E.P.C. systems.....	17,346,372.44	20,103,275.76	23,066,129.81
For depreciation.....	12,885,387.51	13,748,049.68	14,902,177.02
Other reserves.....	1,574,655.74	1,693,129.83	1,902,308.64
Total reserves.....	31,806,415.69	35,544,455.27	39,870,615.47
SURPLUS			
Debentures paid.....	10,728,279.15	13,150,040.37	15,244,778.28
Local sinking fund.....	8,396,255.47	8,735,050.84	9,099,210.61
Operating surplus.....	15,328,255.60	15,909,043.77	15,476,142.75
Total surplus.....	34,452,790.22	37,794,134.98	39,820,131.64
Total liabilities, reserves and surplus....	116,400,634.91	125,537,858.08	132,376,063.97
Percentage of net debt to total assets...	46.0	44.1	43.4

BALANCE SHEET—Concluded

1933	1934	1935	1936	1937	1938
282	282	284	283	287	288
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
10,186,471.28	10,262,692.98	10,381,191.41	10,528,595.34	10,785,473.59	10,894,019.12
22,306,800.94	22,327,618.75	22,072,115.14	22,162,208.03	22,900,269.21	23,614,597.80
21,152,681.20	21,353,725.80	21,650,567.75	22,163,701.17	22,699,652.43	23,371,092.61
5,945,225.61	6,031,767.74	6,068,724.47	6,070,337.02	6,100,282.76	6,134,283.64
9,478,605.14	9,635,279.35	9,678,578.13	9,845,939.94	10,128,591.29	10,494,789.40
8,514,165.03	8,624,504.78	8,767,892.27	9,043,615.65	9,234,773.90	9,539,413.66
2,381,599.40	2,395,296.48	2,420,238.81	2,527,188.03	2,610,137.97	2,697,047.84
1,458,443.68	1,464,306.73	1,486,302.46	1,504,596.77	1,508,564.76	1,516,059.81
4,040,859.74	3,907,359.92	3,616,986.74	4,019,430.59	4,389,592.08	4,444,880.40
502,978.62	494,932.96	496,050.14	496,186.33	496,186.33	497,974.74
5,016,755.92	4,978,079.44	4,917,917.43	4,876,405.43	4,878,609.01	4,897,097.67
200,000.00	200,000.00	200,000.00	200,000.00	.....	.....
91,184,586.56	91,675,564.93	91,756,564.75	93,438,204.30	95,732,133.33	98,101,256.69
1,696,489.24	2,215,914.31	2,927,485.90	3,921,121.28	3,080,864.13	3,043,609.87
2,163,785.20	2,382,446.41	2,593,633.59	2,924,913.30	4,469,369.04	4,832,322.57
3,746,910.92	4,001,596.09	4,363,297.95	4,560,713.55	4,240,741.41	4,106,655.16
1,226,043.30	1,110,705.38	1,212,063.37	1,261,843.81	1,336,527.60	1,393,158.18
9,386,176.58	9,161,419.77	9,086,152.46	9,535,712.83	10,003,873.93	10,397,958.20
26,045,679.00	29,274,340.46	32,609,979.83	36,193,874.21	40,032,438.34	44,254,118.64
253,581.84	289,158.19	301,317.86	203,167.35	186,252.23	178,534.60
135,703,252.64	140,111,145.54	144,850,495.71	152,039,550.63	159,082,200.01	166,307,613.91
42,606,145.29	39,646,989.68	36,667,080.62	34,485,507.43	32,447,411.68	29,987,512.34
3,320,485.45	3,149,035.07	2,931,934.14	2,879,497.45	2,912,960.24	3,334,802.82
206,398.00	143,556.95	72,084.93	25,559.95	34,787.51	108,753.61
3,787,725.14	3,669,008.56	3,462,906.61	3,267,141.59	3,216,028.08	3,120,619.84
49,920,753.88	46,608,590.26	43,134,006.30	40,657,706.42	38,611,187.51	36,551,688.61
26,045,679.00	29,274,340.46	32,609,979.83	36,193,874.21	40,032,438.34	44,254,118.64
16,075,959.28	17,426,809.32	18,410,891.84	19,666,170.18	21,034,164.68	22,583,476.69
2,048,081.84	2,056,820.81	2,459,074.98	2,763,100.40	2,802,650.84	2,814,785.08
44,169,720.12	48,757,970.59	53,479,946.65	58,623,144.79	63,869,253.86	69,652,380.41
17,651,367.71	20,608,129.73	23,481,974.13	26,084,294.84	28,468,539.78	30,890,189.93
9,386,176.58	9,161,419.77	9,086,152.46	9,535,712.83	10,003,873.93	10,397,958.20
14,575,234.35	14,975,035.19	15,668,416.17	17,138,691.75	18,129,344.93	18,815,396.76
41,612,778.64	44,744,584.69	48,236,542.76	52,758,699.42	56,601,758.64	60,103,544.89
135,703,252.64	140,111,145.54	144,850,495.71	152,039,550.63	159,082,200.01	166,307,613.91
40.4	35.9	32.0	28.3	25.2	22.4

CONSOLIDATED

YEAR.....	1912	1913	1914	1915
Number of municipalities included..	28	45	69	99
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....		572,154.38	789,130.81	944,271.08
Commercial light service.....		525,438.16	673,803.92	720,209.26
Commercial power service.....		905,378.17	1,214,829.31	1,501,797.78
Municipal power.....				
Street lighting.....		560,925.56	698,409.71	835,970.87
Rural service.....				
Miscellaneous.....		53,543.24	57,482.41	68,046.29
Total earnings.....	1,617,674.00	2,617,439.51	3,433,656.16	4,070,295.28
EXPENSES				
Power purchased.....		789,632.87	1,045,752.65	1,484,666.00
Substation operation.....		78,394.81	97,658.90	107,607.31
Substation maintenance.....		18,698.46	31,790.99	25,935.56
Distribution system, operation and maintenance.....		104,114.51	130,998.65	154,409.71
Line transformer maintenance.....		8,547.61	11,764.32	11,508.92
Meter maintenance.....		5,222.19	9,536.07	12,899.14
Consumers' premises expenses.....		53,108.38	65,192.23	47,494.26
Street lighting, operation and maintenance.....		84,903.76	113,047.80	136,983.38
Promotion of business.....		72,303.51	86,683.02	74,402.55
Billing and collecting.....		77,351.76	103,560.71	131,541.27
General office, salaries and expenses.....		154,932.69	230,899.75	236,777.86
Undistributed expense.....		65,423.64	89,350.91	129,209.15
Interest.....		528,549.21	662,092.34	817,978.89
Sinking fund and principal payments on debentures.....		*	*	*
Total expenses.....	1,377,168.00	2,041,183.40	2,678,328.34	3,371,414.00
Surplus.....	240,506.00	576,256.11	755,327.82	698,881.28
Depreciation and other reserves....	124,992.47	262,675.24	357,883.31	414,506.99
Surplus less depreciation.....	115,513.53	313,580.87	397,444.51	284,374.29

*Debenture payments included in "Interest."

OPERATING REPORT

1916	1917	1918	1919	1920	1921
128	143	166	181	186	205
<div>\$ c.</div> <div>1,172,878.96</div> <div>812,130.78</div> <div>1,921,152.31</div> <div>.....</div> <div>930,057.48</div> <div>.....</div> <div>147,381.50</div> <div>4,983,601.03</div>	<div>\$ c.</div> <div>1,417,460.31</div> <div>899,023.72</div> <div>2,665,280.65</div> <div>.....</div> <div>967,495.10</div> <div>.....</div> <div>120,805.39</div> <div>6,070,065.17</div>	<div>\$ c.</div> <div>1,632,272.12</div> <div>968,399.42</div> <div>3,417,248.37</div> <div>.....</div> <div>902,875.55</div> <div>.....</div> <div>161,243.70</div> <div>7,082,039.16</div>	<div>\$ c.</div> <div>1,991,632.31</div> <div>1,175,143.56</div> <div>3,443,107.13</div> <div>.....</div> <div>988,900.95</div> <div>.....</div> <div>228,270.65</div> <div>7,827,054.60</div>	<div>\$ c.</div> <div>2,546,345.30</div> <div>1,512,854.63</div> <div>3,752,188.22</div> <div>.....</div> <div>532,279.09</div> <div>.....</div> <div>168,919.95</div> <div>189,778.63</div> <div>9,707,900.93</div>	<div>\$ c.</div> <div>3,149,080.03</div> <div>1,851,501.76</div> <div>3,895,437.46</div> <div>.....</div> <div>654,531.01</div> <div>.....</div> <div>145,566.57</div> <div>225,467.70</div> <div>10,981,942.30</div>
<div>1,959,446.83</div> <div>153,761.08</div> <div>46,131.53</div> <div>154,247.17</div> <div>14,528.17</div> <div>24,218.48</div> <div>52,602.01</div> <div>145,471.50</div> <div>79,324.85</div> <div>154,508.58</div> <div>306,709.35</div> <div>97,333.97</div> <div>951,781.99</div> <div>*</div> <div>4,140,065.51</div> <div>843,535.52</div> <div>486,141.80</div> <div>357,393.72</div>	<div>2,573,879.37</div> <div>203,091.20</div> <div>42,129.04</div> <div>169,326.24</div> <div>25,328.95</div> <div>44,461.55</div> <div>61,765.14</div> <div>157,857.73</div> <div>73,516.37</div> <div>188,083.84</div> <div>349,932.05</div> <div>102,938.80</div> <div>1,085,180.80</div> <div>*</div> <div>5,077,491.08</div> <div>992,574.09</div> <div>607,296.29</div> <div>385,277.80</div>	<div>2,807,769.33</div> <div>238,257.34</div> <div>60,805.92</div> <div>223,347.81</div> <div>30,488.83</div> <div>63,155.56</div> <div>65,149.59</div> <div>196,157.18</div> <div>64,962.78</div> <div>208,660.76</div> <div>421,680.15</div> <div>117,474.07</div> <div>1,238,425.53</div> <div>*</div> <div>5,736,334.85</div> <div>1,345,704.31</div> <div>718,162.30</div> <div>627,542.01</div>	<div>3,284,490.68</div> <div>217,638.89</div> <div>81,853.63</div> <div>286,310.76</div> <div>42,509.12</div> <div>78,726.64</div> <div>84,301.24</div> <div>215,963.86</div> <div>74,789.22</div> <div>236,504.75</div> <div>452,131.22</div> <div>190,690.09</div> <div>1,285,571.51</div> <div>*</div> <div>6,531,481.61</div> <div>1,295,572.99</div> <div>814,219.37</div> <div>481,353.62</div>	<div>4,216,667.87</div> <div>285,407.35</div> <div>102,050.81</div> <div>344,551.57</div> <div>46,323.09</div> <div>123,701.18</div> <div>116,283.52</div> <div>236,930.79</div> <div>78,294.85</div> <div>295,942.88</div> <div>559,695.29</div> <div>256,400.33</div> <div>1,431,807.16</div> <div>*</div> <div>8,094,056.69</div> <div>1,613,844.24</div> <div>902,028.75</div> <div>711,815.49</div>	<div>4,876,650.31</div> <div>314,838.35</div> <div>104,798.01</div> <div>487,918.33</div> <div>65,088.46</div> <div>116,722.97</div> <div>134,854.92</div> <div>297,481.52</div> <div>101,804.46</div> <div>321,685.71</div> <div>656,268.11</div> <div>308,874.42</div> <div>998,611.47</div> <div>532,183.96</div> <div>9,317,781.00</div> <div>1,664,161.30</div> <div>1,044,434.85</div> <div>619,726.45</div>

CONSOLIDATED

YEAR.....	1922	1923	1924
Number of municipalities included..	214	224	241
EARNINGS	\$ c.	\$ c.	\$ c.
Domestic service.....	3,786,608.23	5,166,452.24	5,993,231.07
Commercial light service.....	2,158,306.34	3,260,772.50	3,566,227.22
Commercial power service.....	4,383,912.97	5,927,666.37	6,222,865.88
Municipal power.....	973,263.38	1,161,598.60	1,352,966.47
Street lighting.....	1,160,446.81	1,269,604.48	1,356,668.97
Rural service.....	105,877.09	116,639.06	75,100.24
Miscellaneous.....	187,689.39	316,311.21	231,663.58
Total earnings.....	12,756,104.21	17,219,044.46	18,798,723.43
EXPENSES			
Power purchased.....	6,636,853.37	8,699,026.67	9,669,789.40
Substation operation.....	315,443.70	474,442.13	430,056.09
Substation maintenance.....	100,763.67	133,815.53	202,050.04
Distribution system, operation and maintenance.....	519,252.16	636,477.41	648,700.62
Line transformer maintenance.....	52,932.26	75,920.10	82,936.50
Meter maintenance.....	107,806.88	139,104.81	141,231.23
Consumers' premises expenses.....	143,388.88	218,682.02	237,316.20
Street lighting, operation and maintenance.....	297,363.86	299,579.08	269,973.30
Promotion of business.....	129,932.63	184,371.00	202,060.74
Billing and collecting.....	338,153.50	444,306.92	490,273.30
General office, salaries and expenses.	605,852.50	937,463.47	889,907.66
Undistributed expense.....	385,895.03	359,206.91	494,078.50
Truck operation and maintenance.....			
Interest.....	1,074,657.44	1,615,205.16	1,779,991.26
Sinking fund and principal payments on debentures.....	635,469.90	990,907.14	1,122,798.87
Total expenses.....	11,343,765.78	15,208,508.35	16,661,163.71
Surplus.....	1,412,338.43	2,010,536.11	2,137,559.72
Depreciation and other reserves.....	715,814.24	916,782.75	973,649.62
Surplus less depreciation.....	696,524.19	1,093,753.36	1,163,910.10

OPERATING REPORT—Continued

1925	1926	1927	1928	1929
242	248	251	255	259
\$ c. 6,439,159.86 3,866,292.79 6,568,854.77 1,923,093.09 1,415,382.22 37,975.18 286,451.08	\$ c. 7,372,602.62 4,187,899.19 6,789,217.54 1,922,512.34 1,457,686.21 37,810.73 471,134.15	\$ c. 8,189,866.89 4,626,815.51 7,342,173.20 1,913,502.88 1,489,242.37 13,765.72 581,913.04	\$ c. 8,925,050.56 5,182,723.32 8,298,669.44 1,921,300.97 1,534,476.98 48,451.90* 465,791.92	\$ c. 9,873,681.57 5,697,766.06 9,376,158.74 2,086,444.24 1,598,262.43 51,590.54* 522,780.95
20,537,208.99	22,238,862.78	24,157,279.61	26,376,465.09	29,206,684.53
11,063,123.34 417,921.71 207,497.63 686,344.54 75,473.28 156,909.55 252,808.47 275,316.60 217,102.24 521,134.01 891,640.29 520,584.58	12,185,669.10 450,416.84 286,520.37 795,514.70 74,876.11 189,603.70 275,020.62 295,869.37 234,696.74 557,271.54 786,742.60 460,288.30	13,505,583.77 430,211.76 275,148.86 758,747.10 94,706.38 214,813.87 285,352.68 318,395.79 220,687.60 605,627.58 824,868.90 531,003.80	14,688,570.08 420,512.48 247,647.88 736,159.85 88,676.18 218,530.96 291,333.03 329,597.16 249,842.01 638,797.02 844,578.55 542,755.34	16,379,162.88 461,270.27 274,275.56 907,817.04 93,608.14 242,126.27 314,495.03 359,373.40 250,844.28 695,729.42 904,025.64 502,206.06 110,630.62
1,889,810.95	1,985,233.73	2,063,698.00	2,111,049.49	2,152,695.49
1,294,027.29	1,347,511.92	1,505,626.31	1,601,711.32	1,687,201.64
18,469,694.48	19,925,235.64	21,634,472.40	23,009,761.35	25,335,461.74
2,067,514.51 1,068,880.42	2,313,627.14 1,146,273.05	2,522,807.21 1,249,711.65	3,366,703.74 1,350,252.16	3,871,222.79 1,469,846.83
998,634.09	1,167,354.09	1,273,095.56	2,016,451.58	2,401,375.96

*See footnote on page 259.

CONSOLIDATED

YEAR.....	1930	1931	1932
Number of municipalities included..	267	275	280
EARNINGS	\$ c.	\$ c.	\$ c.
Domestic service.....	10,542,903.89	10,972,952.10	11,447,307.85
Commercial light service.....	5,961,383.23	6,230,475.89	6,243,794.01
Commercial power service.....	9,340,653.28	9,456,224.97	9,356,693.88
Municipal power.....	2,111,482.38	1,967,118.54	1,859,585.35
Street lighting.....	1,674,528.03	1,746,855.24	1,783,972.46
Merchandise*.....	28,954.60*	29,446.38*	11,069.27*
Miscellaneous.....	581,914.78	511,139.80	513,787.30
Total earnings.....	30,241,820.19	30,914,212.92	31,216,210.12
EXPENSES			
Power purchased.....	17,323,077.97	18,085,166.51	19,109,036.25
Substation operation.....	479,502.48	487,484.17	503,351.82
Substation maintenance.....	320,716.48	303,536.11	300,186.15
Distribution system, operation and maintenance.....	991,972.86	1,015,256.14	969,750.51
Line transformer maintenance.....	96,746.35	93,463.24	95,485.55
Meter maintenance.....	278,379.43	284,633.88	300,104.85
Consumers' premises expenses.....	317,902.45	363,078.47	368,208.73
Street lighting, operation and maintenance.....	372,211.07	368,119.49	360,709.76
Promotion of business.....	249,070.05	255,956.03	266,760.84
Billing and collecting.....	745,159.02	792,983.99	818,721.33
General office, salaries and expenses.....	907,226.89	923,676.84	960,558.88
Undistributed expense.....	523,862.96	520,893.10	436,692.96
Truck operation and maintenance.....	112,029.82	107,918.93	112,059.90
Interest.....	2,220,214.45	2,328,094.32	2,532,940.93
Sinking fund and principal payments on debentures.....	1,828,061.62	2,061,718.79	2,244,367.86
Total expenses.....	26,766,134.00	27,991,980.01	29,378,936.42
Surplus.....	3,475,686.19	2,922,232.91	1,837,273.70
Depreciation and other reserves.....	1,574,991.68	1,775,330.69	1,920,896.22
Surplus less depreciation.....	1,900,694.51	1,146,902.22	83,622.52 (loss)

OPERATING REPORT—Concluded

1933	1934	1935	1936	1937	1938
282	282	284	283	287	288
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
11,429,101.13	11,844,033.10	12,145,219.89	12,682,140.18	12,448,345.63	12,607,601.30
6,013,025.96	6,206,086.35	6,458,748.57	6,815,439.16	6,510,685.15	6,727,374.48
9,080,522.07	9,692,784.37	10,211,968.71	10,694,192.44	11,063,764.43	10,527,631.36
1,826,872.07	1,875,969.80	1,821,285.82	1,817,986.94	1,731,311.34	1,677,069.34
1,779,582.48	1,777,596.69	1,788,760.38	1,799,420.87	1,781,363.37	1,813,555.27
12,812.74*	18,747.73*	21,669.98*	23,158.76*	22,971.02*	*26,588.18
485,925.43	555,172.04	562,285.82	575,825.49	607,035.54	602,012.80
30,627,841.88	31,970,390.08	33,009,939.17	34,408,163.84	34,165,476.48	33,981,832.73
19,330,861.58	19,591,887.79	20,053,676.40	20,486,582.65	20,532,736.85	20,575,457.95
484,764.57	468,944.09	478,813.83	478,855.71	490,737.94	493,651.06
288,583.29	296,550.52	297,127.27	301,897.24	300,389.49	351,013.94
895,350.99	844,813.95	830,633.88	855,576.02	889,990.11	921,064.94
82,321.32	75,172.18	70,749.63	72,711.67	81,365.18	94,040.92
283,115.98	291,402.79	313,234.11	328,410.90	343,658.47	384,357.58
361,499.20	352,499.09	340,761.52	306,644.80	420,366.36	483,012.96
353,082.15	338,784.80	340,120.36	356,932.01	364,325.53	373,065.44
259,936.42	228,741.36	252,648.33	288,338.93	294,574.21	309,626.97
817,660.03	827,860.20	835,375.90	945,892.70	980,540.10	987,040.66
908,517.79	908,039.75	943,880.18	967,269.06	940,890.76	931,120.05
349,101.36	362,322.12	360,676.96	448,332.98	476,370.44	430,609.32
105,452.68	98,081.61	95,150.54	69,805.06	77,995.38	84,111.05
2,426,286.35	2,204,994.25	2,040,130.35	1,893,304.28	1,752,287.58	1,642,663.25
2,319,319.09	2,358,169.12	2,423,088.34	2,448,223.80	2,429,565.06	2,424,098.70
29,265,852.80	29,248,263.62	29,686,067.60	30,248,777.81	30,375,793.46	30,484,934.79
1,361,989.08	2,722,126.46	3,323,871.57	4,159,386.03	3,789,683.02	3,496,897.94
1,989,000.41	2,036,637.33	2,076,322.24	2,230,021.86	2,329,625.64	2,451,529.46
627,011.33 (loss)	685,489.13	1,247,549.33	1,929,364.17	1,460,057.38	1,045,368.48

*Profits from the sale of merchandise. Rural service now given in "Rural Power Districts." Consult Section IX.

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM

Municipality.....	Acton	Agincourt	Ailsa Craig	Alvinston	Amherst- burg
Population.....	1,916	P.V.	472	650	2,869
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	1,545.45			133.56	
Substation equipment.....	1,985.25				932.00
Distribution system—overhead....	25,512.17	8,771.91	7,738.40	14,150.91	38,968.90
Distribution system—underground..					
Line transformers.....	11,963.68	4,500.69	1,761.29	3,150.23	19,063.98
Meters.....	10,908.80	2,728.97	2,568.32	3,164.43	16,975.68
Street light equipment, regular....	2,258.64	874.51	446.16	1,090.62	812.44
Street light equipment, ornamental..					5,598.72
Miscellaneous construction expense.	2,812.97	252.36	492.36	1,025.70	6,593.60
Steam or hydraulic plant.....					
Old plant.....				773.85	
Total plant.....	56,986.96	17,128.44	13,006.53	23,489.30	88,945.32
Bank and cash balance.....	6,329.71	446.24	6,559.16	2,951.17	4,805.16
Securities and investments.....	6,500.00	5,000.00	5,000.00	4,500.00	
Accounts receivable.....	745.18	769.33	1,376.92	679.94	6,474.45
Inventories.....	1,165.86				
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	59,932.14	9,553.28	13,887.33	13,876.34	46,386.99
Other assets.....	168.50				460.80
Total assets.....	131,828.35	32,897.29	39,829.94	45,496.75	147,072.72
Deficit.....				157.17	
Total.....	131,828.35	32,897.29	39,829.94	45,653.92	147,072.72
LIABILITIES					
Debenture balance.....				3,133.56	14,481.25
Accounts payable.....	640.98	130.69		132.20	1,956.07
Bank overdraft.....					
Other liabilities.....	873.92		170.00	55.00	7,706.06
Total liabilities.....	1,514.90	130.69	170.00	3,320.76	24,143.38
RESERVES					
For equity in H-E.P.C. systems....	59,932.14	9,553.28	13,887.33	13,876.34	46,386.99
For depreciation.....	10,362.15	2,206.54	6,801.40	7,986.14	22,077.33
Other reserves.....				75.00	316.01
Total reserves.....	70,294.29	11,759.82	20,688.73	21,937.48	68,780.33
SURPLUS					
Debentures paid.....	14,500.00	8,072.65	6,883.38	20,395.68	17,572.35
Local sinking fund.....					
Operating surplus.....	45,519.16	12,934.13	12,087.83		36,576.66
Total surplus.....	60,019.16	21,006.78	18,971.21	20,395.68	54,149.01
Total liabilities, reserves and surplus..	131,828.35	32,897.29	39,829.94	45,653.92	147,072.72
Percentage of net debt to total assets..	2.1	0.6	0.7	10.5	19.5

NOTE—In computing the “percentage of net debt to total assets,” the ornamental street lighting capital, sinking fund on local debentures, and equity in H-E.P.C. systems, are excluded

“A”

Hydro Municipalities as at December 31, 1938

Ancaster Twp.	Arkona 406	Aylmer 1,998	Ayr 755	Baden P.V.	Beachville P.V.	Beamsville 1,121
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	.....	10,383.52	125.00	660.64	176.13	.....
18,219.90	9,653.76	21,521.81	12,625.70	9,122.26	14,106.51	600.00
12,055.79	1,706.44	12,676.00	4,715.11	6,612.00	3,687.40	11,630.00
5,145.66	1,614.42	11,089.02	3,977.10	3,546.83	3,370.72	6,688.33
1,376.27	750.31	1,929.91	610.17	738.66	444.23	2,183.16
.....
982.16	208.57	1,906.84	1,070.87	256.46	602.04	314.85
.....	1,030.30	6,719.17	4,002.53	.....	.....	.....
37,779.78	14,963.80	66,226.27	27,126.48	20,936.85	22,387.03	48,743.75
.....	629.47	2,631.92	740.43	2,010.95	3,183.07	5,793.55
.....	.....	12,000.00	1,000.00	.....	4,000.00	.....
1,860.36	46.38	2,560.20	1,280.27	420.95	963.00	1,105.99
.....
14,586.78	5,376.07	37,448.90	13,127.01	28,770.11	36,505.85	1,849.12
.....
54,226.92	21,015.72	120,867.29	43,274.19	52,138.86	67,038.95	57,492.41
.....	948.98	.....	.....	.....	.....	.....
54,226.92	21,964.70	120,867.29	43,274.19	52,138.86	67,038.95	57,492.41
.....
6,182.09	6,419.88	12,607.23	4,925.17	885.76	990.94	36,240.68
1,232.75	424.02	.....	.....	3.15	.....	99.30
3,511.46	.....	.....	.....	.....	.....	.....
217.42	14.17	328.00	16.00	.....	.....	543.09
.....
11,143.72	6,858.07	12,935.23	4,941.17	888.91	990.94	36,883.07
.....
14,586.78	5,376.07	37,448.90	13,127.01	28,770.11	36,505.85	1,849.12
8,912.78	3,037.61	14,688.84	6,220.39	2,708.42	7,888.20	11,256.00
.....	.....	654.83	.....	.....	.....	1,099.88
23,499.56	8,413.68	52,792.57	19,347.40	31,478.53	44,394.05	14,205.00
.....
4,607.49	6,692.95	26,094.69	12,578.21	4,114.24	4,362.06	1,259.32
.....
14,976.15	.....	29,044.80	6,407.41	15,657.18	17,291.90	5,145.02
.....
19,583.64	6,692.95	55,139.49	18,985.62	19,771.42	21,653.96	6,404.34
.....
54,226.92	21,964.70	120,867.29	43,274.19	52,138.86	67,038.95	57,492.41
.....
28.1	43.9	15.5	16.4	3.8	3.2	66.0

from assets; and the total liabilities are reduced by the amount of the local sinking fund reserve, and the liability in respect to the ornamental street lighting capital, which amount is included in other liabilities.

STATEMENT

Balance Sheets of Electrical Departments of

**NIAGARA
SYSTEM—Continued**

Municipality.....	Belle River 810	Blenheim 1,775	Blyth 652	Bolton 567	Bothwell 643
Population.....					
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....		7,621.82			
Substation equipment.....		909.64			
Distribution system—overhead....	17,963.50	30,203.37	11,597.77	10,270.58	6,489.81
Distribution system—underground.					
Line Transformers.....	4,445.86	9,710.23	2,449.70	4,688.27	2,492.37
Meters.....	4,097.60	9,991.33	2,212.93	3,352.70	3,199.77
Street light equipment, regular....	1,063.75	3,798.14	1,569.43	873.89	3,558.99
Street light equipment, ornamental.		1,482.97			1,131.22
Miscellaneous construction expense.	1,074.37	655.07	263.27	1,369.78	499.30
Steam or hydraulic plant.....					
Old plant.....			2,096.17	1,554.60	
Total plant.....	28,645.08	64,372.57	20,189.27	22,109.82	17,371.46
Bank and cash balance.....	4,124.47	562.68	4,299.62		4,367.14
Securities and investments.....		5,000.00		5,000.00	11,000.00
Accounts receivable.....	829.19	1,978.76	1,010.05	1,145.18	548.61
Inventories.....		1,435.39			24.63
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	8,974.71	33,233.36	8,490.56	15,723.50	15,802.46
Other assets.....					
Total assets.....	42,573.45	106,582.76	33,989.50	43,978.50	49,114.30
Deficit.....					
Total.....	42,573.45	106,582.76	33,989.50	43,978.50	49,114.30
LIABILITIES					
Debenture balance.....		5,677.96	3,460.72	3,137.01	2,027.78
Accounts payable.....	187.45	6,229.35	164.55	10.00	13.78
Bank overdraft.....				169.33	
Other liabilities.....	180.00	1,715.47	135.00		1,186.22
Total liabilities.....	367.45	13,622.78	3,760.27	3,316.34	3,227.78
RESERVES					
For equity in H-E.P.C. systems....	8,974.71	33,233.36	8,490.56	15,723.50	15,802.46
For depreciation.....	8,112.45	16,725.21	4,911.97	7,591.81	8,137.84
Other reserves.....	5,000.00	137.43			25.02
Total reserves.....	22,087.16	50,096.00	13,402.53	23,315.31	23,965.32
SURPLUS					
Debentures paid.....	8,500.00	8,322.04	12,571.80	9,362.99	3,506.41
Local sinking fund.....					
Operating surplus.....	11,618.84	34,541.94	4,254.90	7,983.86	18,414.79
Total surplus.....	20,118.84	42,863.98	16,826.70	17,346.85	21,921.20
Total liabilities, reserves and surplus..	42,573.45	106,582.76	33,989.50	43,978.50	49,114.30
Percentage of net debt to total assets..	1.1	16.9	14.7	11.7	6.5

“A”—Continued

Hydro Municipalities as at December 31, 1938

Brampton	Brantford	Brantford Twp.	Bridgeport	Brigden	Brussels	Burford
5,638	31,282		P.V.	P.V.	780	P.V.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
5,355.12	109,890.18			101.03		202.00
34,176.39	232,411.21	1,192.71				
53,657.47	277,080.68	60,529.77	9,980.05	7,337.87	13,794.49	9,309.55
34,951.58	150,569.97	18,783.55	3,275.45	2,068.13	2,402.70	3,121.12
29,477.61	141,193.33	14,124.15	2,605.14	2,398.29	4,108.62	3,681.57
12,476.64	24,746.25	4,810.05	1,605.09	494.23	1,587.79	425.14
	38,922.18					
20,072.99	33,642.89	2,839.08	621.35	1,198.00	1,544.50	728.00
	6,000.00			1,381.00	2,827.50	
190,167.80	1,014,456.69	102,279.31	18,087.08	14,978.55	26,265.60	17,467.38
50.00	12,455.95	6,804.32	552.81	708.10	5,389.21	2,708.51
3,419.24	81,500.00			2,500.00	5,000.00	4,000.00
5,597.73	25,972.92	744.05	424.93	870.42	944.71	1,019.86
104.55	11,538.11					
		4,912.50				
150,875.39	792,512.19	28,937.27	5,314.14	10,684.95	11,522.89	12,104.92
350,214.71	1,938,435.86	143,677.45	24,378.96	29,742.02	49,122.41	37,300.67
350,214.71	1,938,435.86	143,677.45	24,378.96	29,742.02	49,122.41	37,300.67
2,373.71	84,250.00	6,886.97	8,555.25		7,503.85	
6,616.54	7,856.01				1,757.34	
14,890.77						
245.00	57,432.22	1,864.23	169.29	15.00	29.23	61.08
24,126.02	149,538.23	8,751.20	8,724.54	15.00	9,290.42	61.08
150,875.39	792,512.19	28,937.27	5,314.14	10,684.95	11,522.89	12,104.92
54,773.16	356,103.42	26,870.66	5,601.24	4,967.40	7,188.35	5,791.96
204.35	21,195.87	93.50		101.41		
205,852.90	1,169,811.48	55,901.43	10,915.38	15,753.76	18,711.24	17,896.88
66,676.93	445,750.00	50,238.69	3,812.78	8,000.00	13,496.15	9,000.00
		4,912.50				
53,558.86	173,336.15	23,873.63	926.26	5,973.26	7,624.60	10,342.71
120,235.79	619,086.15	79,024.82	4,739.04	13,973.26	21,120.75	19,342.71
350,214.71	1,938,435.86	143,677.45	24,378.96	29,742.02	49,122.41	37,300.67
12.1	10.1	3.5	45.7	0.0	24.7	0.2

STATEMENT

Balance Sheets of Electrical Departments of

**NIAGARA
SYSTEM—Continued**

Municipality.....	Burgess- ville P.V.	Caledonia	Campbell- ville P.V.	Cayuga	Chatham
Population.....		1,410		664	16,153
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....		177.34			90,216.28
Substation equipment.....					153,234.38
Distribution system—overhead....	3,655.35	18,832.31	2,982.19	15,358.86	153,458.92
Distribution system—underground..					85,342.84
Line transformers.....	1,395.24	6,574.23	820.55	3,402.17	87,816.56
Meters.....	1,116.14	7,114.10	653.14	3,624.34	72,072.10
Street light equipment, regular....	261.02	1,935.58	335.61	960.89	18,877.79
Street light equipment, ornamental..					35,426.10
Miscellaneous construction expense.	457.22	1,068.41	18.52	621.55	32,501.61
Steam or hydraulic plant.....					
Old plant.....					42,752.31
Total plant.....	6,884.97	35,701.97	4,810.01	23,967.81	771,698.89
Bank and cash balance.....	444.66	2,525.81	673.11	1,645.01	50.00
Securities and investments.....		2,000.00	1,000.00	2,500.00	20,000.00
Accounts receivable.....		699.66	614.43	1,182.54	41,924.87
Inventories.....				770.89	5,980.13
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	4,763.90	19,878.60	2,197.15	8,353.35	349,147.70
Other assets.....					
Total assets.....	12,093.53	60,806.04	9,294.70	38,419.60	1,188,801.59
Deficit.....					
Total.....	12,093.53	60,806.04	9,294.70	38,419.60	1,188,801.59
LIABILITIES					
Debenture balance.....		343.68	2,056.52	8,360.46	158,089.53
Accounts payable.....	189.71	28.48			14,476.06
Bank overdraft.....					18,654.07
Other liabilities.....		11.50		127.00	43,229.64
Total liabilities.....	189.71	383.66	2,056.52	8,487.46	234,449.30
RESERVES					
For equity in H-E.P.C. systems....	4,763.90	19,878.60	2,197.15	8,353.35	349,147.70
For depreciation.....	3,002.14	2,629.23	1,134.21	5,727.56	173,743.05
Other reserves.....				66.21	19,199.04
Total reserves.....	7,766.04	22,507.83	3,331.36	14,147.12	542,089.79
SURPLUS					
Debentures paid.....	3,500.00	4,280.32	3,391.25	11,639.54	211,910.47
Local sinking fund.....					
Operating surplus.....	637.78	33,634.23	515.57	4,145.48	200,352.03
Total surplus.....	4,137.78	37,914.55	3,906.82	15,785.02	412,262.50
Total liabilities, reserves and surplus..	12,093.53	60,806.04	9,294.70	38,419.60	1,188,801.59
Percentage of net debt to total assets..	2.6	0.9	29.0	28.2	24.7

“A”—Continued

Hydro Municipalities as at December 31, 1938

Chippawa 1,186	Clifford 446	Clinton 1,901	Comber P.V.	Cottam P.V.	Courtright 334	Dashwood P.V.
\$ c. 1,434.46	\$ c. 8,820.99	\$ c. 7,598.09	\$ c. 62.00	\$ c.	\$ c.	\$ c.
11,669.40	8,004.46	25,195.53	7,505.46	9,561.43	6,558.19	3,499.11
6,289.06	1,077.29	10,590.73	3,760.64	2,133.74	1,225.40	2,400.81
5,503.21	2,415.98	10,169.92	2,554.23	1,932.89	945.92	1,548.87
2,646.89	845.05	5,600.33	423.35	366.43	425.08	353.42
1,962.40	37.44	5,051.17	1,108.87	261.65	558.67	291.87
		10,658.09				
29,505.42	12,380.22	83,684.85	15,414.55	14,256.14	9,713.26	8,094.08
2,372.46	2,386.25	2,018.34	1,336.64	447.37	1,943.34	1,387.12
		3,000.00	6,000.00	5,739.70		1,500.00
185.24	371.13	1,133.24	320.49	280.44	458.12	635.99
		3,023.81				
		6,594.51				
15,315.84	6,062.55	41,387.80	16,868.55	3,684.52	5,029.25	7,506.54
47,378.96	21,200.15	140,842.55	39,940.23	24,408.17	17,143.97	19,123.73
47,378.96	21,200.15	140,842.55	39,940.23	24,408.17	17,143.97	19,123.73
1,887.96	5,758.82	7,500.00	423.58	4,770.73		1,481.96
869.00		328.31	626.66	389.77		43.09
593.41		398.81	32.00	195.00		
3,350.37	5,758.82	8,227.12	1,082.24	5,355.50		1,525.05
15,315.84	6,062.55	41,387.80	16,868.55	3,684.52	5,029.25	7,506.54
3,873.05	2,818.83	25,745.54	6,712.34	4,358.68	1,835.95	2,942.77
		575.04				
19,188.89	8,881.38	67,708.38	23,580.89	8,043.20	6,865.20	10,449.31
11,462.04	2,241.18	37,000.00	7,276.42	4,229.49	8,138.35	1,918.04
		6,594.51				
13,377.66	4,318.77	21,312.54	8,000.68	6,779.98	2,140.42	5,231.33
24,839.70	6,559.95	64,907.05	15,277.10	11,009.47	10,278.77	7,149.37
47,378.96	21,200.15	140,842.55	39,940.23	24,408.17	17,143.97	19,123.73
10.4	38.0	1.8	4.7	25.8	0.0	13.1

STATEMENT

Balance Sheets of Electrical Departments of

**NIAGARA
SYSTEM—Continued**

Municipality.....	Delaware	Delhi	Dorchester	Drayton	Dresden
Population.....	P.V.	1,677	P.V.	551	1,477
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
ASSETS					
Lands and buildings.....					523.00
Substation equipment.....					
Distribution system—overhead....	5,070.16	22,425.04	9,261.04	9,838.74	19,719.73
Distribution system—underground..					
Line transformers.....	1,493.55	12,598.38	3,046.56	3,376.80	7,856.84
Meters.....	1,146.98	8,660.52	2,674.95	3,413.98	6,676.40
Street light equipment, regular.....	202.58	3,284.74	783.17	772.21	1,127.48
Street light equipment, ornamental..					
Miscellaneous construction expense..	203.81	3,148.29	386.56	436.75	1,009.50
Steam or hydraulic plant.....					
Old plant.....		29,594.42			4,815.01
Total plant.....	8,117.08	79,711.39	16,152.28	17,838.48	41,727.96
Bank and cash balance.....	181.17	3,322.50	319.44	333.27	3,584.53
Securities and investments.....	2,000.00		2,000.00	5,000.00	2,500.00
Accounts receivable.....	736.37	147.41	1,237.12	1,624.57	6,104.56
Inventories.....		1,587.60			643.28
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	2,770.18	527.11	6,625.69	11,032.05	28,133.99
Other assets.....					
Total assets.....	13,804.80	85,296.01	26,334.53	35,828.37	82,694.32
Deficit.....					
Total.....	13,804.80	85,296.01	26,334.53	35,828.37	82,694.32
LIABILITIES					
Debenture balance.....	1,321.31	55,000.00	1,618.64	4,694.29	
Accounts payable.....	154.36	19,706.20		694.76	1,364.99
Bank overdraft.....					
Other liabilities.....	5.00	1,159.00	28.00		235.00
Total liabilities.....	1,480.67	75,865.20	1,646.64	5,389.05	1,599.99
RESERVES					
For equity in H-E.P.C. systems....	2,770.18	527.11	6,625.69	11,032.05	28,133.99
For depreciation.....	1,063.88	5,313.35	3,191.17	7,441.76	6,029.38
Other reserves.....	30.00		46.17		1,767.44
Total reserves.....	3,864.06	5,840.46	9,863.03	18,473.81	35,930.81
SURPLUS					
Debentures paid.....	2,678.69		2,681.36	4,805.71	16,238.25
Local sinking fund.....					
Operating surplus.....	5,781.38	3,590.35	12,143.50	7,159.80	28,925.27
Total surplus.....	8,460.07	3,590.35	14,824.86	11,965.51	45,163.52
Total liabilities, reserves and surplus..	13,804.80	85,296.01	26,334.53	35,828.37	82,694.32
Percentage of net debt to total assets..	13.4	89.5	8.4	21.7	2.9

“A”—Continued

Hydro Municipalities as at December 31, 1938

Drumbo P.V.	Dublin P.V.	Dundas 4,956	Dunnville 4,004	Dutton 807	East York Twp.	Elmira 2,069
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	.....	12,111.11	3,356.09	75.11	17,018.18	7,445.61
.....	.....	13,396.22	27,507.57	.....	8,893.55	.....
4,663.92	5,902.30	50,908.31	39,747.16	9,173.99	307,711.43	35,083.77
.....	.....	.....	.....	.....	.....	540.21
1,801.50	1,088.61	19,936.42	20,436.78	3,654.29	88,928.53	15,211.77
1,954.57	1,087.60	20,904.90	18,574.06	3,470.18	148,254.68	13,481.60
284.27	544.86	11,453.13	8,441.93	709.26	23,431.36	2,128.74
.....	.....	1,154.52	.....	.....	.....	.....
235.58	787.06	7,606.12	7,448.91	304.53	22,096.92	2,910.99
.....
.....	.....	1,867.38	10,717.62	.....	.....	2,168.08
8,939.85	9,410.43	139,338.11	136,230.12	17,387.36	616,334.65	78,970.77
5,665.86	1,272.30	28,470.86	9,131.11	243.24	23,864.86	295.85
.....	.....	1,500.00	10,000.00	7,000.00	2,812.91	11,000.00
313.19	505.45	7,520.25	3,131.25	759.12	4,287.03	3,028.72
.....	.....	292.17	1,108.84	3.30	8,183.79	.....
5,761.73	5,098.98	124,619.32	54,382.03	17,521.85	231,196.11	69,381.64
.....	.....	327.76	.....	.....	45.81	.....
20,680.63	16,287.16	302,068.47	213,983.35	42,914.87	886,725.16	162,676.98
.....
20,680.63	16,287.16	302,068.47	213,983.35	42,914.87	886,725.16	162,676.98
1,485.80	.....	13,667.18	35,145.34	.....	178,133.11	15,301.04
.....	398.17	2,839.99	.....	.....	38,805.57	800.00
.....	.....	6,838.22	1,753.20	177.36	17,056.38	749.89
1,485.80	398.17	23,345.39	36,898.54	177.36	233,995.06	16,850.93
5,761.73	5,098.98	124,619.32	54,382.03	17,521.85	231,196.11	69,381.64
4,456.76	4,378.30	60,486.68	36,501.23	8,525.68	91,727.65	24,491.90
.....	.....	334.58	.....	34.22	2,032.60	.....
10,218.49	9,477.28	185,440.58	90,883.26	26,081.75	324,956.36	93,873.54
3,014.20	6,200.00	39,332.82	40,354.66	8,407.49	178,934.67	21,867.46
5,962.14	211.71	53,949.68	45,846.89	8,248.27	148,839.07	30,085.05
8,976.34	6,411.71	93,282.50	86,201.55	16,655.76	327,773.74	51,952.51
20,680.63	16,287.16	302,068.47	213,983.35	42,914.87	886,725.16	162,676.98
10.0	3.6	12.6	23.1	0.7	35.7	18.1

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Elora	Embro	Erieau	Erie Beach 21	Essex
Population.....	1,149	428	273	21	1,833
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	1,524.54				
Substation equipment.....					
Distribution system—overhead....	17,505.40	10,202.41	10,819.42	2,379.10	38,014.38
Distribution system—underground..					442.55
Line Transformers.....	7,704.49	3,039.64	2,152.32	925.32	17,159.02
Meters.....	6,155.75	2,288.52	3,008.45	900.39	12,150.36
Street light equipment, regular....	1,245.99	535.73	341.06		1,589.86
Street light equipment, ornamental..					7,205.06
Miscellaneous construction expense.	1,507.45	187.94	379.90	375.03	1,347.98
Steam or hydraulic plant.....					
Old plant.....		429.25			
Total plant.....	35,643.62	16,683.49	16,701.15	4,579.84	77,909.21
Bank and cash balance.....	354.55	955.21	308.35	834.62	3,947.23
Securities and investments.....	7,000.00	3,000.00			15,000.00
Accounts receivable.....	1,216.89	884.50	689.02	336.50	2,380.34
Inventories.....	320.26				
Sinking fund on local debentures..					
Equity in H-E.P.C. systems.....	33,275.96	10,090.36	5,499.34	1,381.67	27,020.54
Other assets.....	202.41				
Total assets.....	78,013.69	31,613.56	23,197.86	7,132.63	126,257.32
Deficit.....					
Total.....	78,013.69	31,613.56	23,197.86	7,132.63	126,257.32
LIABILITIES					
Debenture balance.....		616.94	2,598.40	1,786.88	16,196.69
Accounts payable.....	500.00		261.67		1.00
Bank overdraft.....					
Other liabilities.....	119.25		45.00		7,800.68
Total liabilities.....	619.25	616.94	2,905.07	1,786.88	23,998.37
RESERVES					
For equity in H-E.P.C. systems....	33,275.96	10,090.36	5,499.34	1,381.67	27,020.54
For depreciation.....	15,466.02	6,670.99	3,545.32	590.31	19,610.24
Other reserves.....		43.89	73.02		495.68
Total reserves.....	48,741.98	16,805.24	9,117.68	1,971.98	47,126.46
SURPLUS					
Debentures paid.....	13,000.00	6,883.06	4,284.73	1,513.12	6,303.31
Local sinking fund.....					
Operating surplus.....	15,652.46	7,308.32	6,890.38	1,860.65	48,829.18
Total surplus.....	28,652.46	14,191.38	11,175.11	3,373.77	55,132.49
Total liabilities, reserves and surplus..	78,013.69	31,613.56	23,197.86	7,132.63	126,257.32
Percentage of net debt to total assets..	1.4	2.7	16.4	31.1	18.2

“A”—Continued

Hydro Municipalities as at December 31, 1938

Etobicoke Twp.	Exeter 1,652	Fergus 2,785	Fonthill 829	Forest 1,502	Forest Hill 10,208	Galt 14,410
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
28,469.50	3,335.73			6,469.82	8,266.08	201,580.30
298,768.73	30,349.38	35,101.99	11,797.30	21,366.86	43,971.31	113,734.59
					161,894.04	258,477.80
86,451.11	11,895.95	20,184.21	5,066.12	10,356.16	865.26	
65,102.14	8,718.37	13,529.47	4,747.71	10,325.37	93,855.38	116,400.56
14,741.40	4,693.43	2,588.89	1,609.86	2,408.49	54,272.57	73,783.12
2,689.44		3,522.23			7,781.77	72,078.33
24,096.38	3,220.24	1,066.08	238.22	1,805.25		
					17,569.38	35,576.10
		2,546.59	3,500.00	11,042.87		
520,318.70	62,213.10	78,539.46	26,959.21	63,774.82	388,475.79	871,630.80
466.50	2,669.38		1,186.77	278.58	2,012.91	2,726.95
	13,000.00			15,500.00		68,000.00
9,924.38	2,686.40	6,142.28	240.06	4,770.93	57,992.06	38,330.45
5,833.77	1,919.12	58.60		2,345.75		21,664.79
						73,166.51
179,186.29	36,836.74	53,126.89	5,347.28	28,540.71	127,029.50	480,343.84
		779.38				139.63
715,729.64	119,324.74	138,646.61	33,733.32	115,210.79	575,510.26	1,556,002.97
715,729.64	119,324.74	138,646.61	33,733.32	115,210.79	575,510.26	1,556,002.97
119,868.28	2,638.60	12,343.70	10,909.80	5,876.36	284,811.53	162,713.73
39,878.98	244.30	5,054.64		36.67	24,048.51	25,886.35
		1,160.88				
9,247.95	231.50	3,547.23	289.30	85.26	5,559.93	1,771.74
168,995.21	3,114.40	22,106.45	11,199.10	5,998.29	314,419.97	190,371.82
179,186.29	36,836.74	53,126.89	5,347.28	28,540.71	127,029.50	480,343.84
106,088.90	15,849.87	11,200.06	2,736.68	17,670.99	80,283.09	299,363.64
789.90	540.71	350.00		52.25		28,997.02
286,065.09	53,227.32	64,676.95	8,083.96	46,263.95	207,312.59	808,704.50
145,827.12	17,361.45	29,656.30	11,590.20	28,523.64	38,500.07	355,288.22
114,842.22	45,621.57	22,206.91	2,860.06	34,424.91	15,277.63	73,166.51
						128,471.92
260,669.34	62,983.02	51,863.21	14,450.26	62,948.55	53,777.70	556,926.65
715,729.64	119,324.74	138,646.61	33,733.32	115,210.79	575,510.26	1,556,002.97
31.1	3.8	22.7	39.1	6.9	70.1	11.7

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	George- town 2,325	Glencoe 810	Goderich 4,488	Granton P.V.	Guelph 21,333
Population.....					
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	673.81	3,230.35	13,569.89		13,380.18
Substation equipment.....			34,402.48		174,069.78
Distribution system—overhead....	33,623.02	21,295.26	70,217.09	4,392.03	244,462.43
Distribution system—underground..					
Line transformers.....	21,626.85	7,373.10	20,807.08	1,696.30	102,756.48
Meters.....	14,506.94	4,315.96	20,442.73	1,610.02	101,851.61
Street light equipment, regular....	4,328.70	1,735.09	9,152.70	180.78	43,495.12
Street light equipment, ornamental..					
Miscellaneous construction expense.	3,093.58	3,553.03	6,254.82	113.08	27,047.27
Steam or hydraulic plant.....					
Old plant.....	2,209.80		14,622.15		
Total plant.....	80,062.70	41,502.79	189,468.94	7,992.21	707,062.87
Bank and cash balance.....	5,526.73	4,898.15	16,211.11	1,008.72	16,149.22
Securities and investments.....	6,621.56		13,500.00	4,000.00	
Accounts receivable.....	2,662.31	2,709.13	4,313.27	598.13	7,542.79
Inventories.....		722.83	1,048.24		20,014.00
Sinking fund on local debentures..					4,752.50
Equity in H-E.P.C. systems.....	90,031.63	17,890.26	109,094.80	7,260.84	585,490.75
Other assets.....			333.44		205.14
Total assets.....	184,904.93	67,723.16	333,969.80	20,859.90	1,341,217.27
Deficit.....					
Total.....	184,904.93	67,723.16	333,969.80	20,859.90	1,341,217.27
LIABILITIES					
Debenture balance.....	6,120.45	2,780.97	37,070.45	1,419.80	5,000.00
Accounts payable.....	31.64		182.51	800.03	20,269.66
Bank overdraft.....					
Other liabilities.....	884.06	96.59	2,431.73		2,693.16
Total liabilities.....	7,036.15	2,877.56	39,684.69	2,219.83	27,962.82
RESERVES					
For equity in H-E.P.C. systems....	90,031.63	17,890.26	109,094.80	7,260.84	585,490.75
For depreciation.....	22,143.78	11,388.48	81,844.92	3,229.35	147,787.07
Other reserves.....		377.42	884.72	60.00	2,091.46
Total reserves.....	112,175.41	29,656.16	191,824.44	10,550.19	735,369.28
SURPLUS					
Debentures paid.....	13,879.55	17,331.91	59,017.60	2,080.20	139,999.99
Local sinking fund.....					4,752.50
Operating surplus.....	51,813.82	17,857.53	43,443.07	6,009.68	433,132.68
Total surplus.....	65,693.37	35,189.44	102,460.67	8,089.88	577,885.17
Total liabilities, reserves and surplus..	184,904.93	67,723.16	333,969.80	20,859.90	1,341,217.27
Percentage of net debt to total assets..	7.4	5.8	17.6	16.3	3.1

“A”—Continued

Hydro Municipalities as at December 31, 1938

Hagersville 1,307	Hamilton 153,527	Harriston 1,266	Harrow 984	Hensall 680	Hespeler 2,810	Highgate 349
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	959,451.79	395.25	2,221.25	.....	4,573.03	.....
864.37	2,019,448.78	600.00	.....	.....	39,867.91	.....
20,994.31	1,234,764.53	22,340.94	18,119.92	12,521.72	31,253.12	6,397.77
.....	845,103.47	.....	.....	.....	.....	.....
10,926.05	872,344.38	8,170.04	10,330.81	4,899.17	23,055.02	2,109.25
8,805.09	721,483.31	8,171.01	6,609.32	3,749.35	12,924.72	1,801.55
1,053.17	282,374.44	1,332.00	852.85	612.83	7,285.90	453.91
.....
611.85	252,504.59	1,181.80	919.18	614.64	1,675.68	491.60
.....	32,239.91	1,001.43	.....	400.00	.....	.....
.....
43,254.84	7,219,715.20	43,192.47	39,053.33	22,797.71	120,635.38	11,254.08
.....
9,605.73	137,317.09	1,891.29	1,334.40	1,612.35	15,212.75	976.13
16,000.00	.....	3,000.00	.....	7,000.00	.....	4,000.00
561.90	251,696.04	1,780.50	1,717.91	1,074.68	1,917.93	209.86
.....	162,472.17	71.61	581.09	.....	295.30	.....
.....	457,625.90	.....	.....	.....	.....	.....
68,638.69	4,052,095.80	29,866.18	21,079.36	14,381.26	98,306.27	8,733.74
.....	81,140.66	225.86	.....	.....	.....	.....
.....
138,061.16	12,362,062.86	80,027.91	63,766.09	46,866.00	236,367.63	25,173.81
.....
138,061.16	12,362,062.86	80,027.91	63,766.09	46,866.00	236,367.63	25,173.81
.....
1,689.83	2,129,558.38	6,433.69	2,348.25	4,522.90	24,401.93	.....
.....	297,114.42	.....	404.74	688.05	272.17	.....
.....
345.00	*945,232.64	.....	419.26	42.00	5.00	50.00
.....
2,034.83	3,371,905.44	6,433.69	3,172.25	5,252.95	24,679.10	50.00
.....
68,638.69	4,052,095.80	29,866.18	21,079.36	14,381.26	98,306.27	8,733.74
11,582.37	1,174,344.16	10,076.58	6,061.61	9,394.23	20,068.89	5,173.53
.....	479,330.08	.....	144.19	.....	251.71	.....
.....
80,221.06	5,705,770.04	39,942.76	27,285.16	23,775.49	118,626.87	13,907.27
.....
6,310.17	2,089,466.74	19,384.34	9,651.75	7,477.10	53,168.58	5,000.00
.....	457,625.90	.....	.....	.....	.....	.....
49,495.10	737,294.74	14,267.12	23,656.93	10,360.46	39,893.08	6,216.54
.....
55,805.27	3,284,387.38	33,651.46	33,308.68	17,837.56	93,061.66	11,216.54
.....
138,061.16	12,362,062.86	80,027.91	63,766.09	46,866.00	236,367.63	25,173.81
.....
2.9	37.1	12.8	7.4	16.2	17.9	0.3

*\$900,000.00 balance purchase agreement.

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Humber- stone	Ingersoll	Jarvis	Kingsville	Kitchener
Population.....	2,629	5,177	505	2,363	32,550
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....		15,064.45		7,774.09	236,294.60
Substation equipment.....		33,283.83			274,352.27
Distribution system—overhead....	26,333.72	56,158.76	9,838.17	32,861.24	371,528.15
Distribution system—underground.					57,466.00
Line Transformers.....	9,465.53	29,836.92	3,151.56	13,905.07	196,368.42
Meters.....	8,950.13	25,778.80	2,778.36	14,658.51	207,687.92
Street light equipment, regular....	884.80	4,988.75	929.54	1,439.82	70,331.83
Street light equipment, ornamental.		4,597.59		19,200.00	126,922.86
Miscellaneous construction expense.	3,547.70	11,804.78	649.62	368.61	18,188.66
Steam or hydraulic plant.....					
Old plant.....		19,098.54			52,363.91
Total plant.....	49,181.88	200,612.42	17,347.25	90,207.34	1,611,504.62
Bank and cash balance.....	6,178.96	7,174.09	3,368.99	3,286.02	75.00
Securities and investments.....	7,000.00	11,716.57	4,000.00	19,000.00	15,000.00
Accounts receivable.....	513.77	2,988.45	235.49	2,402.03	51,419.72
Inventories.....		1,428.20		112.07	14,490.66
Sinking fund on local debentures....		81,558.03			
Equity in H-E.P.C. systems.....	17,992.32	163,054.47	13,148.41	35,250.80	1,136,054.14
Other assets.....					1,041.01
Total assets.....	80,866.93	468,532.23	38,100.14	150,258.26	2,829,585.15
Deficit.....					
Total.....	80,866.93	468,532.23	38,100.14	150,258.26	2,829,585.15
LIABILITIES					
Debenture balance.....	11,700.00	79,800.00	3,752.04	24,595.13	104,785.31
Accounts payable.....		852.84			107,346.42
Bank overdraft.....					410.54
Other liabilities.....	1,612.66	6,148.30	52.00	22,008.04	127,864.96
Total liabilities.....	13,312.66	86,801.14	3,804.04	46,603.17	340,407.23
RESERVES					
For equity in H-E.P.C. systems....	17,992.32	163,054.47	13,148.41	35,250.80	1,136,054.14
For depreciation.....	6,156.65	28,442.49	4,287.99	23,965.55	374,312.90
Other reserves.....		617.54		418.95	29,602.02
Total reserves.....	24,148.97	192,114.50	17,436.40	59,635.30	1,539,969.06
SURPLUS					
Debentures paid.....	20,300.00		6,747.96	8,904.87	407,364.69
Local sinking fund.....		81,558.03			
Operating surplus.....	23,105.30	108,058.56	10,111.74	35,114.92	541,844.17
Total surplus.....	43,405.30	189,616.59	16,859.70	44,019.79	949,208.86
Total liabilities, reserves and surplus..	80,866.93	468,532.23	38,100.14	150,258.26	2,829,585.15
Percentage of net debt to total assets..	21.1	0.3	15.2	28.6	13.6

“A”—Continued

Hydro Municipalities as at December 31, 1938

Lambeth P.V.	La Salle 812	Leamington 5,446	Listowel 2,826	London 74,281	London Twp.	Long Branch 4,029
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	1,810.68	17,898.40	1,459.49	454,758.50	.....	.....
7,874.27	20,739.49	7,085.62	41,896.14	977,546.28	.....	.....
.....	.....	52,680.44	5,066.38	813,339.62	20,119.78	55,473.03
1,883.12	6,760.24	11,991.15	19,732.58	334,237.08	.....	.....
2,579.77	4,487.68	24,516.28	16,997.15	350,233.59	7,409.90	14,325.60
1,052.75	1,054.22	25,038.94	2,629.28	361,866.36	5,331.57	18,387.43
.....	.....	1,380.13	1,348.66	72,200.71	1,519.84	4,774.88
318.68	1,947.46	15,178.49	2,547.03	92,286.12	.....	.....
.....	.....	3,194.18	.....	98,175.81	1,986.17	2,050.14
.....	.....	.....	4,745.30	.....	1,733.80	.....
13,708.59	36,799.77	.....	96,422.01	3,554,644.07	38,101.06	95,011.08
701.71	5,904.38	158,963.63	5,300.94	6,950.38	.....	7,035.74
2,000.00	.....	2,687.42	7,000.00	.....	1,000.00	.....
586.33	1,272.16	23,813.81	3,836.67	283,286.21	1,811.52	5,474.95
.....	39.24	6,959.94	141.40	122,826.76	.....	.....
8,554.77	12,183.04	65.52	67,333.92	449,425.76	.....	.....
.....	.....	72,830.19	.....	2,160,457.00	16,831.62	20,021.81
.....	.....	.....	.....	14,411.91	393.41	.....
25,551.40	56,198.59	.....	180,034.94	6,592,002.09	58,137.61	127,543.58
.....	.....	265,320.51	.....	.....	.....	.....
25,551.40	56,198.59	.....	180,034.94	6,592,002.09	58,137.61	127,543.58
.....	.....	265,320.51	.....	.....	.....	.....
.....	7,543.81	.....	1,438.59	607,009.00	4,949.45	14,658.49
481.52	1,341.35	.....	108.56	94,905.81	1,335.42	3,323.96
.....	.....	122.51	.....	18,760.23	255.66	.....
85.00	562.09	18,197.92	1,634.54	94,556.93	393.41	2,872.16
.....
566.52	9,447.25	18,320.43	3,181.69	815,231.97	6,933.94	20,854.61
.....
8,554.77	12,183.04	.....	67,333.92	2,160,457.00	16,831.62	20,021.81
4,521.07	9,469.39	72,830.19	39,411.24	1,192,336.07	8,031.97	20,312.80
42.08	321.48	34,991.88	.....	110,815.26	42.97	326.28
.....	.....	191.39	.....	.....	.....	.....
13,117.92	21,973.91	108,013.46	106,745.16	3,463,608.33	24,906.56	40,660.89
.....
4,000.00	7,956.19	48,000.00	41,751.30	974,891.00	14,050.55	25,646.11
.....	.....	.....	.....	449,425.76	.....	.....
7,866.96	16,821.24	90,986.62	28,356.79	888,845.03	12,246.56	40,381.97
.....
11,866.96	24,777.43	138,986.62	70,108.09	2,313,161.79	26,297.11	66,028.08
25,551.40	56,198.59	.....	180,034.94	6,592,002.09	58,137.61	127,543.58
.....	.....	265,320.51	.....	.....	.....	.....
3.3	21.5	1.8	1.6	7.0	16.8	19.3

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Lucan	Lynden	Markham	Merlin	Merritton
Population.....	614	P.V.	1,116	P.V.	2,644
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....		241.18			6,575.31
Substation equipment.....					67,231.95
Distribution system—overhead....	10,919.23	4,805.02	18,007.53	8,390.21	37,730.97
Distribution system—underground..					
Line transformers.....	4,610.64	2,166.63	8,687.15	3,618.88	10,335.55
Meters.....	3,644.05	1,960.02	6,467.32	2,285.57	12,767.32
Street light equipment, regular....	580.73	354.06	750.76	560.17	4,728.28
Street light equipment, ornamental..					
Miscellaneous construction expense.	535.77	273.57	1,397.58	455.36	3,501.38
Steam or hydraulic plant.....					
Old plant.....	2,860.45			241.85	
Total plant.....	23,150.87	9,800.48	35,310.34	15,552.04	142,870.76
Bank and cash balance.....	1,347.50	3,039.23		2,462.83	3,331.05
Securities and investments.....	8,000.00		7,000.00	6,000.00	
Accounts receivable.....	654.57	353.77	921.92	246.63	223.22
Inventories.....					
Sinking fund on local debentures..					
Equity in H-E.P.C. systems.....	16,505.43	11,944.62	16,298.90	10,533.16	121,200.80
Other assets.....			94.01		
Total assets.....	49,658.37	25,138.10	59,625.17	34,794.66	267,625.83
Deficit.....					
Total.....	49,658.37	25,138.10	59,625.17	34,794.66	267,625.83
LIABILITIES					
Debenture balance.....	2,822.99	1,757.95		3,734.09	11,210.23
Accounts payable.....		37.72		88.53	14,897.29
Bank overdraft.....			350.79		
Other liabilities.....	282.22		253.78	85.00	
Total liabilities.....	3,105.21	1,795.67	604.57	3,907.62	26,107.52
RESERVES					
For equity in H-E.P.C. systems....	16,505.43	11,944.62	16,298.90	10,533.16	121,200.80
For depreciation.....	10,335.97	3,626.60	6,053.21	3,897.31	16,698.35
Other reserves.....			123.24	23.40	
Total reserves.....	26,841.40	15,571.22	22,475.35	14,453.87	137,899.15
SURPLUS					
Debentures paid.....	8,390.63	2,737.05	11,373.63	9,630.12	20,975.98
Local sinking fund.....					
Operating surplus.....	11,321.13	5,034.16	25,171.62	6,803.05	82,643.18
Total surplus.....	19,711.76	7,771.21	36,545.25	16,433.17	103,619.16
Total liabilities, reserves and surplus..	49,658.37	25,138.10	59,625.17	34,794.66	267,625.83
Percentage of net debt to total assets..	9.4	13.6	1.4	16.1	17.8

“A”—Continued

Hydro Municipalities as at December 31, 1938

Milton 1,791	Milverton 1,006	Mimico 6,940	Mitchell 1,607	Moorefield P.V.	Mount Brydges P.V.	Newbury 279
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	237.20	19,791.60	18,139.20	.....	.....	.....
16,418.16	.....	38,461.02	19,666.10	.....	.....	.....
23,295.84	12,195.10	77,360.93	31,817.00	3,086.96	7,542.77	7,086.73
.....
15,981.30	8,101.30	35,520.60	11,851.97	1,211.63	2,305.43	1,797.86
14,165.77	5,589.87	29,911.85	12,928.99	1,311.68	2,709.06	1,346.04
5,033.13	765.09	8,760.75	7,094.87	295.88	1,385.36	866.47
.....
5,214.78	921.54	10,680.44	1,698.98	357.85	194.76	511.93
.....
3,092.54	.....	.....	1,490.00	.....	.....	348.22
.....
83,201.52	27,810.10	220,487.19	104,687.11	6,264.00	14,137.38	11,957.25
.....
4,864.48	933.99	17,304.75	1,656.16	2,461.62	4,243.41	1,830.03
4,000.00	4,000.00	.....	7,500.00	.....	3,000.00	.....
1,654.41	884.80	4,391.69	9,161.68	269.48	332.18	908.09
3,888.83	.....	.....	4,395.64	.....	.....	.....
.....
89,854.18	38,677.60	123,378.37	38,871.03	5,530.21	6,662.49	4,025.16
.....	.....	.....	.....	.....	21.90	.....
.....
187,463.42	72,306.49	365,562.00	166,271.62	14,525.31	28,397.36	18,720.53
.....
.....
187,463.42	72,306.49	365,562.00	166,271.62	14,525.31	28,397.36	18,720.53
.....
.....
4,190.41	.....	52,784.85	.....	.....	1,450.54	1,800.00
1,743.46	256.92	2,618.25	175.01	.....	290.42	8.43
.....
334.08	.....	6,266.08	221.00	.....	165.07	45.00
.....
6,267.95	256.92	61,669.18	396.01	.....	1,906.03	1,853.43
.....
.....
89,854.18	38,667.60	123,378.37	38,871.03	5,530.21	6,662.49	4,025.16
18,757.70	7,539.03	61,042.52	41,814.95	2,936.93	3,814.30	3,824.68
128.33	.....	1,902.90	1,737.25	.....	100.00	.....
.....
108,740.21	46,216.63	186,323.79	82,423.23	8,467.14	10,576.79	7,849.84
.....
.....
28,856.00	9,500.00	74,215.15	22,295.22	4,500.00	2,769.46	7,954.39
.....
43,599.26	16,332.94	43,353.88	61,157.16	1,558.17	13,145.08	1,062.87
.....
72,455.26	25,832.94	117,569.03	83,452.38	6,058.17	15,914.54	9,017.26
.....
187,463.42	72,306.49	365,562.00	166,271.62	14,525.31	28,397.36	18,720.53
.....
6.4	0.8	25.4	0.3	0.0	8.7	12.6

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	New Hamburg 1,441	New Toronto 7,095	Niagara Falls 18,747	Niagara-on the-Lake 1,651	North York Twp.
Population					
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings	2,513.19	44,097.67	132,496.29	2,307.35	28,600.62
Substation equipment	1,217.05		230,769.30	16,048.36	
Distribution system—overhead	24,238.58	86,532.92	196,086.91	32,564.18	391,461.21
Distribution system—underground		8,605.69			
Line Transformers	7,205.84	36,494.20	171,730.62	10,190.11	111,105.36
Meters	9,177.43	35,760.58	115,712.09	9,064.92	60,081.41
Street light equipment, regular	2,197.40	12,521.72	121,165.66	3,195.15	156.00
Street light equipment, ornamental					13,491.21
Miscellaneous construction expense	1,347.69	7,857.55	10,970.94	2,240.81	26,058.98
Steam or hydraulic plant					
Old plant	5,242.56		19,467.25		
Total plant	53,139.74	231,870.33	998,399.06	75,610.88	630,954.79
Bank and cash balance	1,441.03	13,675.06	74,579.18	4,687.13	10,030.09
Securities and investments	7,000.00		50,000.00		
Accounts receivable	2,008.75	7,542.17	6,841.11	4,775.04	5,300.35
Inventories	573.91	1,565.75	5,213.23	2,409.57	247.53
Sinking fund on local debentures					
Equity in H-E.P.C. systems	43,553.89	383,182.07	505,944.49	27,137.36	115,470.50
Other assets			3,130.83		
Total assets	107,717.32	637,835.38	1,644,107.90	114,619.98	762,003.26
Deficit					
Total	107,717.32	637,835.38	1,644,107.90	114,619.98	762,003.26
LIABILITIES					
Debenture balance	2,177.30	2,253.11	206,822.44	15,746.94	278,345.73
Accounts payable			12,282.51		42,207.76
Bank overdraft					
Other liabilities	271.50	6,631.22	16,125.30	245.00	22,852.38
Total liabilities	2,448.80	8,884.33	235,230.25	15,991.94	343,405.87
RESERVES					
For equity in H-E.P.C. systems	43,553.89	383,182.07	505,944.49	27,137.36	115,470.50
For depreciation	15,894.86	58,303.47	229,476.09	15,908.52	103,125.54
Other reserves	33.83	1,396.96	15,245.54	1,015.86	
Total reserves	59,482.58	442,882.50	750,666.02	44,061.74	218,596.04
SURPLUS					
Debentures paid	15,551.78	5,746.89	483,420.56	20,754.48	164,676.14
Local sinking fund					
Operating surplus	30,234.16	180,321.66	174,791.07	33,811.82	35,325.21
Total surplus	45,785.94	186,068.55	658,211.63	54,566.30	200,001.35
Total liabilities, reserves and surplus	107,717.32	637,835.38	1,644,107.90	114,619.98	762,003.26
Percentage of net debt to total assets	3.8	3.5	20.7	18.3	52.1

“A”—Continued

Hydro Municipalities as at December 31, 1938

Norwich	Oil Springs	Otterville	Palmerston	Paris	Parkhill	Petrolia
1,212	470	P.V.	1,410	4,325	997	2,711
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
4,638.76	1,524.68			8,781.50		900.00
11,301.52	13,799.87	8,055.99	1,346.28	28,126.55		5,956.75
			32,405.44	55,626.68	16,090.01	47,110.67
6,847.08	5,300.35	4,115.99	10,052.42	22,949.68	4,359.83	29,231.68
7,485.85	3,733.52	2,573.93	7,810.69	20,538.70	4,263.78	15,918.15
4,685.64	308.24	1,548.33	6,715.06	14,059.22	995.06	6,324.44
2,149.68	2,106.11	142.00	3,545.38	2,987.49	1,298.29	6,680.39
3,509.82			4,018.71			3,389.94
40,618.35	26,772.77	16,436.24	65,893.98	153,069.82	27,006.97	115,512.02
1,908.53	5,196.22	3,616.24	143.54	12,085.38	1,356.19	7,418.62
5,000.00	1,259.70			28,500.00	4,000.00	8,400.00
4,506.98	833.21	1,511.13	493.99	509.68	1,392.91	6,684.72
2,549.42	133.09		2,888.48			428.18
32,279.19	22,067.63	7,578.75	37,519.01	98,616.97	16,481.83	89,435.96
86,862.47	56,262.62	29,142.36	106,939.00	292,781.85	50,237.90	227,879.50
86,862.47	56,262.62	29,142.36	106,939.00	292,781.85	50,237.90	227,879.50
2,744.95			1,554.59	5,360.02	1,129.00	13,685.65
	101.29	200.23	3,370.48	342.93	20.03	2,641.03
293.50	24.00	51.25	342.50		100.00	887.50
3,038.45	125.29	251.48	5,267.57	5,702.95	1,249.03	17,214.18
32,279.19	22,067.63	7,578.75	37,519.01	98,616.97	16,481.83	89,435.96
8,100.69	8,553.97	5,437.87	7,234.81	75,151.56	8,674.72	36,411.38
827.00	90.03		420.07	59.25		619.87
41,206.88	30,711.63	13,016.62	45,173.89	173,827.78	25,156.55	126,467.21
11,011.05	16,721.31	4,500.00	25,445.41	86,639.98	13,501.02	36,314.35
31,606.09	8,704.39	11,374.26	31,052.13	26,611.14	10,331.30	47,883.76
42,617.14	25,425.70	15,874.26	56,497.54	113,251.12	23,832.32	84,198.11
86,862.47	56,262.62	29,142.36	106,939.00	292,781.85	50,237.90	227,879.50
5.6	0.4	1.2	7.6	2.9	3.7	12.4

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Plattsville	Point Edward	Port Colborne	Port Credit	Port Dalhousie
Population.....	P.V.	1,161	6,348	1,751	1,565
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....			22,682.74	675.00	
Substation equipment.....					
Distribution system—overhead....	4,381.03	21,653.09	92,345.57	27,091.28	20,063.38
Distribution system—underground.					
Line Transformers.....	1,890.66	6,984.43	29,709.65	12,178.60	10,640.39
Meters.....	2,079.29	5,494.23	25,008.62	10,335.76	10,294.41
Street light equipment, regular....	147.15	3,091.41	4,744.86	4,922.71	1,041.19
Street light equipment, ornamental.			16,611.59		
Miscellaneous construction expense.	535.92	503.14	6,875.59	3,020.21	4,071.63
Steam or hydraulic plant.....					
Old plant.....			9,929.60		6,018.38
Total plant.....	9,034.05	37,726.30	207,908.22	58,223.56	52,129.38
Bank and cash balance.....	2,803.20	1,101.88	6,890.84	1,832.16	152.70
Securities and investments.....	2,000.00	13,000.00	1,500.00		3,000.00
Accounts receivable.....	542.14	3,176.68	19,304.98	3,622.12	3,670.84
Inventories.....			4,249.23		
Sinking fund on local debentures....					4,247.60
Equity in H-E.P.C. systems.....	7,876.11	49,249.89	83,172.43	34,402.54	30,256.29
Other assets.....					
Total assets.....	22,255.50	104,254.75	323,025.70	98,080.38	93,456.81
Deficit.....					
Total.....	22,255.50	104,254.75	323,025.70	98,080.38	93,456.81
LIABILITIES					
Debenture balance.....	1,729.46	4,287.33	53,785.60	5,045.44	6,510.56
Accounts payable.....			22.53	2,760.65	41.30
Bank overdraft.....					
Other liabilities.....		339.29	19,628.55	655.00	133.00
Total liabilities.....	1,729.46	4,626.62	73,436.68	8,461.09	6,684.86
RESERVES					
For equity in H-E.P.C. systems....	7,876.11	49,249.89	83,172.43	34,402.54	30,256.29
For depreciation.....	4,036.98	13,502.03	48,042.83	17,819.67	7,346.84
Other reserves.....		116.45	3,346.07	182.05	926.31
Total reserves.....	11,913.09	62,868.37	134,561.33	52,404.26	38,529.44
SURPLUS					
Debentures paid.....	3,507.54	12,712.67	92,214.40	9,454.56	15,989.44
Local sinking fund.....					4,247.60
Operating surplus.....	5,105.41	24,047.09	22,813.29	27,760.47	28,005.47
Total surplus.....	8,612.95	36,759.76	115,027.69	37,215.03	48,242.51
Total liabilities, reserves and surplus..	22,255.50	104,254.75	323,025.70	98,080.38	93,456.81
Percentage of net debt to total assets..	12.0	8.4	25.4	13.3	4.1

“A”—Continued

Hydro Municipalities as at December 31, 1938

Port Dover 1,640	Port Rowan 659	Port Stanley *741	Preston 6,415	Princeton P.V.	Queenston P.V.	Richmond Hill 1,241
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
248.75		1,574.60				
34,810.92	9,565.78	25,238.14	56,955.28 90,572.53	4,370.06	8,358.93	600.00 10,872.77
11,936.48	1,684.07	12,670.02	50,818.82	2,636.23	3,022.94	9,349.08
8,930.60	2,234.90	11,047.26	40,258.84	1,311.56	1,583.54	6,002.13
2,673.13	890.49	2,036.64	5,442.53	207.93	422.43	1,334.77
3,415.44	735.13	7,271.80	11,037.85	117.75	2,438.61	724.16
		577.51	32,126.75			
62,015.32	15,110.37	60,415.97	287,212.60	8,643.53	15,826.45	28,882.91
4,164.39	1,163.72	1,372.53	18,314.12	6,107.52	810.00	2,332.04
	2,000.00	8,000.00				
3,089.96	1,223.58	1,660.51	7,582.24	959.07	313.07	1,380.08
			4,916.53			240.28
21,890.84	5,780.58	35,008.12	229,099.17	7,968.25	5,970.31	16,280.97
20.00				25.00		
91,180.51	25,278.25	106,457.13	547,124.66	23,703.37	22,919.83	49,116.28
91,180.51	25,278.25	106,457.13	547,124.66	23,703.37	22,919.83	49,116.28
3,356.70	6,523.03	2,640.47	28,908.15	1,172.25	2,864.44	1,728.21
1,830.87		1,029.94	11,494.46			114.00
678.00	170.00	153.26	1,023.10		25.00	354.84
5,865.57	6,693.03	3,823.67	41,425.71	1,172.25	2,889.44	2,197.05
21,890.84	5,780.58	35,008.12	229,099.17	7,968.25	5,970.31	16,280.97
12,827.47	3,340.77	13,589.56	126,522.86	3,322.44	4,148.98	3,163.78
		75.23	610.37			
34,718.31	9,121.35	48,672.91	356,232.40	11,290.69	10,119.29	19,444.75
25,643.30	4,476.97	16,309.53	123,891.85	2,377.75	6,635.56	10,471.79
24,953.33	4,986.90	37,651.02	25,574.70	8,862.68	3,275.54	17,002.69
50,596.63	9,463.87	53,960.55	149,466.55	11,240.43	9,911.10	27,474.48
91,180.51	25,278.25	106,457.13	547,124.66	23,703.37	22,919.83	49,116.28
8.4	34.3	5.3	13.0	7.5	17.0	6.7

*Winter population 741—Summer 3500 additional.

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Ridgetown	Riverside	Rockwood	Rodney	St. Catharines
Population.....	1,956	5,090	P.V.	722	27,426
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	2,000.00	2,528.73	79.00		52,499.01
Substation equipment.....	1,024.24				136,186.41
Distribution system—overhead....	23,339.73	91,840.85	8,110.51	12,060.73	238,476.92
Distribution system—underground.					
Line transformers.....	10,581.96	32,583.00	2,956.33	3,015.38	155,794.86
Meters.....	9,930.32	23,704.29	3,258.63	3,698.65	102,123.73
Street light equipment, regular....	5,074.00		694.18	3,578.02	20,423.21
Street light equipment, ornamental.	1,431.73	17,030.71			29,486.71
Miscellaneous construction expense.	1,515.17	7,041.11	473.95	773.34	26,908.43
Steam or hydraulic plant.....					
Old plant.....	5,088.46			700.00	17,507.89
Total plant.....	59,985.61	174,728.69	15,572.60	23,826.12	779,407.17
Bank and cash balance.....	458.08	11,921.28	1,711.34	1,806.95	14,693.71
Securities and investments.....	11,000.00				57,000.00
Accounts receivable.....	1,608.67	12,402.13	346.39	832.24	40,281.98
Inventories.....	299.17	163.14	93.78		10,833.17
Sinking fund on local debentures..					86,419.01
Equity in H-E.P.C. systems.....	36,765.88	71,118.28	9,866.79	11,499.31	498,408.23
Other assets.....		318.57			233.56
Total assets.....	110,117.41	270,652.09	27,590.90	37,964.62	1,487,276.83
Deficit.....					
Total.....	110,117.41	270,652.09	27,590.90	37,964.62	1,487,276.83
LIABILITIES					
Debenture balance.....	4,258.60	31,418.66	1,884.41		159,750.00
Accounts payable.....	4,046.40	2,778.61	20.05	129.35	49,838.23
Bank overdraft.....					
Other liabilities.....	2,058.21	19,378.03	76.00	245.00	29,836.21
Total liabilities.....	10,363.21	53,575.30	1,980.46	374.35	239,424.44
RESERVES					
For equity in H-E.P.C. systems....	36,765.88	71,118.28	9,866.79	11,499.31	498,408.23
For depreciation.....	15,331.57	38,460.01	6,147.25	2,207.65	201,986.32
Other reserves.....	275.00	4,837.34		64.62	5,918.92
Total reserves.....	52,372.45	114,415.63	16,014.04	13,771.58	706,313.47
SURPLUS					
Debentures paid.....	15,197.39	51,081.34	2,615.59	8,500.00	142,272.91
Local sinking fund.....					86,419.01
Operating surplus.....	32,184.36	51,579.82	6,980.81	15,318.69	312,847.00
Total surplus.....	47,381.75	102,661.16	9,596.40	23,818.69	541,538.92
Total liabilities, reserves and surplus..	110,117.41	270,652.09	27,590.90	37,964.62	1,487,276.83
Percentage of net debt to total assets..	12.4	20.0	11.2	1.4	14.1

“A”—Continued

Hydro Municipalities as at December 31, 1938

St. Clair Beach 110	St. George P.V.	St. Jacobs P.V.	St. Marys 4,017	St. Thomas 16,208	Sarnia 18,155	Scarboro Twp.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	.....	.....	3,000.00	78,779.06	112,431.86	17,273.95
.....	.....	.....	26,480.28	130,249.43	208,257.35	301.95
8,087.48	5,976.60	6,904.32	61,482.09	109,652.69	220,394.92	294,920.97
.....	.....	.....	.....	52,815.87	.....	.....
2,880.61	2,729.42	3,696.90	24,133.74	62,886.86	78,268.91	68,109.83
1,688.92	3,425.73	3,171.05	24,137.23	74,598.64	76,027.01	70,738.60
.....	286.41	368.97	6,361.34	22,118.60	27,251.96	20,783.55
.....	.....	.....	.....	3,693.04	8,271.83	.....
264.20	374.18	588.49	10,922.96	13,479.00	23,304.48	10,385.51
.....
.....	.....	.....	20,696.85	.....	55,445.72	.....
12,921.21	12,792.34	14,729.73	177,214.49	548,273.19	809,654.04	482,514.36
1,605.45	3,019.76	311.76	10,296.36	125.00	47,159.76	193,350.72
.....	.....	3,000.00	10,000.00	56,000.00	100,000.00	2,680.00
575.18	610.89	786.28	7,133.32	16,120.10	30,449.00	17,830.15
.....	.....	.....	1,298.57	10,368.24	20,471.68	.....
.....	.....	.....	1,931.34	.....	.....	.....
5,814.44	12,302.27	13,685.21	116,825.42	426,453.41	536,266.17	156,777.70
.....	.....	.....	.....	.....	.....	101.52
20,916.28	28,725.26	32,512.98	324,699.50	1,057,339.94	1,544,000.65	853,254.45
.....
20,916.28	28,725.26	32,512.98	324,699.50	1,057,339.94	1,544,000.65	853,254.45
1,610.19	2,071.11	.....	28,524.73	1,762.44	41,146.80	115,445.98
232.30	.....	114.97	2,267.02	6,352.26	.....	151,045.82
.....	.....	.....	.....	3,548.56	.....	.....
56.59	162.50	.....	175.00	13,783.90	14,365.34	33,156.58
1,899.08	2,233.61	114.97	30,966.75	25,447.16	55,512.14	299,648.38
5,814.44	12,302.27	13,685.21	116,825.42	426,453.41	536,266.17	156,777.70
3,904.97	3,415.21	3,766.05	63,091.60	156,083.91	190,360.20	113,092.52
256.67	.....	.....	398.90	752.31	2,355.60	5,050.95
9,976.08	15,717.48	17,451.26	180,315.92	583,289.63	728,981.97	274,921.17
4,731.26	3,928.89	6,000.00	85,722.29	137,181.63	296,853.20	175,122.29
.....	.....	.....	1,931.34	.....	.....	.....
4,309.86	6,845.28	8,946.75	25,763.20	311,421.52	462,653.34	103,562.61
9,041.12	10,774.17	14,946.75	113,416.83	448,603.15	759,506.54	278,684.90
20,916.28	28,725.26	32,512.98	324,699.50	1,057,339.94	1,544,000.65	853,254.45
12.5	13.6	0.6	14.1	3.4	4.6	43.0

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Seaforth	Simcoe	Springfield	Stamford Twp.	Stouffville
Population.....	1,708	5,826	378		1,115
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	1,836.39	10,001.76		7,196.71	
Substation equipment.....	5,999.16	41,525.47		37,384.60	
Distribution system—overhead....	32,172.08	54,664.66	10,045.54	136,755.82	13,365.24
Distribution system—underground.....		1,412.24			
Line Transformers.....	10,945.60	36,339.45	3,581.91	50,568.16	4,627.29
Meters.....	10,921.35	31,111.34	2,119.11	36,204.69	4,891.51
Street light equipment, regular....	4,969.46	7,592.37	575.57	9,893.43	1,613.55
Street light equipment, ornamental.....		3,500.00			
Miscellaneous construction expense.	1,499.09	5,620.11	685.08	9,493.38	528.21
Steam or hydraulic plant.....					
Old plant.....		927.92		13,743.66	
Total plant.....	68,343.13	192,695.32	17,007.21	301,240.45	25,025.80
Bank and cash balance.....	4,530.56	19,668.48	2,501.51	8,458.87	4,243.51
Securities and investments.....	100.00	10,000.00	500.00		8,000.00
Accounts receivable.....	1,795.74	3,400.99	711.56	19,258.61	1,359.43
Inventories.....	1,428.53	4,048.87		8,014.17	
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	54,433.26	88,489.70	8,164.02	83,563.62	14,017.09
Other assets.....				324.76	21.57
Total assets.....	130,631.22	318,303.36	28,884.30	420,860.48	52,667.40
Deficit.....					
Total.....	130,631.22	318,303.36	28,884.30	420,860.48	52,667.40
LIABILITIES					
Debenture balance.....		37,703.35	2,617.79	108,993.50	264.41
Accounts payable.....	33.37	165.55	1,495.40	5,751.71	814.57
Bank overdraft.....					
Other liabilities.....	284.15	3,820.00	27.00	5,063.46	135.00
Total liabilities.....	317.52	41,688.90	4,140.19	119,808.67	1,213.98
RESERVES					
For equity in H-E.P.C. systems....	54,433.26	88,489.70	8,164.02	83,563.62	14,017.09
For depreciation.....	24,652.06	25,409.19	1,668.69	52,018.98	4,442.09
Other reserves.....	458.58	10,000.00		3,261.77	98.65
Total reserves.....	79,543.90	123,898.89	9,832.71	138,844.37	18,557.83
SURPLUS					
Debentures paid.....	25,000.00	37,731.55	6,882.21	131,284.67	14,409.49
Local sinking fund.....					
Operating surplus.....	25,769.80	114,984.02	8,029.19	30,922.77	18,486.10
Total surplus.....	50,769.80	152,715.57	14,911.40	162,207.44	32,895.59
Total liabilities, reserves and surplus..	130,631.22	318,303.36	28,884.30	420,860.48	52,667.40
Percentage of net debt to total assets..	0.4	16.8	20.0	35.6	3.1

“A”—Continued

Hydro Municipalities as at December 31, 1938

Stratford 17,615	Strathroy 2,947	Streets- ville 672	Sutton 852	Swansea 5,831	Tavistock 1,037	Tecumseh 2,245	Thames- ford P.V.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
141,389.22	8,856.05	2,038.47			2,922.56	1,018.51	
131,296.28	23,640.34	1,172.04					
158,746.14	50,389.39	8,737.43	20,690.76	69,582.58	13,796.60	35,609.78	7,757.33
22,719.37							
97,676.45	23,070.01	5,167.99	7,660.31	43,575.70	9,670.45	11,316.12	3,251.85
84,045.22	17,354.63	2,985.78	6,472.01	31,237.06	5,536.76	10,862.87	3,131.65
25,462.64	5,863.19	1,054.40	1,906.40	5,266.18	1,102.93		298.97
						4,760.95	
28,983.76	5,611.26	664.70	2,400.19	7,276.70	1,654.55	2,102.44	496.40
		10,641.55					
31,520.00	12,343.15		675.00				
721,839.08	147,128.02	32,462.36	39,804.67	156,938.22	34,683.85	65,670.67	14,936.20
24,473.98	4,679.56	8,324.48	281.77	3,039.50		1,549.36	
90,000.00	17,000.00				2,000.00		8,500.00
24,102.69	8,379.24	701.37	5,242.53	16,651.15	1,585.33	3,245.87	859.41
9,766.24	3,249.45						
249,644.90							
525,264.74	76,001.55	1,488.75	13,649.67	60,734.07	39,045.42	22,225.61	14,727.30
	43.22		130.70				
1,645,091.63	256,481.04	42,976.96	59,109.34	237,362.94	77,314.60	92,691.51	39,022.91
1,645,091.63	256,481.04	42,976.96	59,109.34	237,362.94	77,314.60	92,691.51	39,022.91
340,000.00	25,966.47	12,175.13	8,362.69	79,971.50	2,522.71	6,780.41	898.38
	89.59		845.21	9,556.02		3,355.34	
					1,039.03		489.25
4,599.90	794.09	228.87	5.00	2,324.48		5,779.24	75.00
344,599.90	26,850.15	12,404.00	9,212.90	91,852.00	3,561.74	15,914.99	1,462.63
525,264.74	76,001.55	1,488.75	13,649.67	60,734.07	39,045.42	22,225.61	14,727.30
296,194.16	36,594.67	3,804.88	8,698.12	44,314.56	11,042.41	14,879.91	5,778.33
4,970.01	1,165.51	25.00				1,470.09	
826,428.91	113,761.73	5,318.63	22,347.79	105,048.63	50,087.83	38,575.61	20,505.63
115,800.00	40,265.53	5,369.95	17,637.31	22,342.25	3,477.29	19,219.59	4,459.65
249,644.90							
108,617.92	75,603.63	19,884.38	9,911.34	18,120.06	20,187.74	18,981.32	12,595.00
474,062.82	115,869.16	25,254.33	27,548.65	40,462.31	23,665.03	38,200.91	17,054.65
1,645,091.63	256,481.04	42,976.96	59,109.34	237,362.94	77,314.60	92,691.51	39,022.91
10.9	14.8	29.9	20.3	52.0	9.3	17.0	6.0

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Thames- ville 814	Thedford 593	Thorn- dale P.V.	Thorold 4,904	Tilbury 1,980
Population.....					
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	681.69			9,892.59	969.46
Substation equipment.....					
Distribution system—overhead....	12,717.83	9,452.65	3,586.56	35,036.81	16,241.77
Distribution system—underground..					
Line transformers.....	5,662.60	3,167.91	1,595.95	19,031.02	12,761.37
Meters.....	4,137.35	2,529.35	1,840.53	21,316.17	7,568.69
Street light equipment, regular....	1,402.87	894.34	181.19	3,043.05	1,042.37
Street light equipment, ornamental..					
Miscellaneous construction expense.	717.66	1,554.01	310.45	4,211.72	1,624.05
Steam or hydraulic plant.....				13,388.68	
Old plant.....	4,445.68	433.78		3,800.00	3,049.47
Total plant.....	29,765.68	18,032.04	7,514.68	109,720.04	43,257.18
Bank and cash balance.....	2,956.87	1,733.88	279.37	11,972.99	36.09
Securities and investments.....	5,000.00	2,500.00		20,000.00	19,000.00
Accounts receivable.....	646.59	1,322.62	1,707.61	330.94	984.90
Inventories.....				3,230.31	
Sinking fund on local debentures...					
Equity in H-E.P.C. systems.....	15,086.00	8,154.15	7,512.59	84,627.36	39,953.95
Other assets.....					
Total assets.....	53,455.14	31,742.69	17,014.25	229,881.64	103,232.12
Deficit.....					
Total.....	53,455.14	31,742.69	17,014.25	229,881.64	103,232.12
LIABILITIES					
Debenture balance.....		3,845.20	927.97		3,540.40
Accounts payable.....				2,511.46	
Bank overdraft.....					
Other liabilities.....	204.00	42.53	42.57	2,094.13	202.18
Total liabilities.....	204.00	3,887.73	970.54	4,605.59	3,742.58
RESERVES					
For equity in H-E.P.C. systems....	15,086.00	8,154.15	7,512.59	84,627.36	39,953.95
For depreciation.....	9,088.26	3,975.96	3,841.53	31,830.59	14,400.94
Other reserves.....	130.12		22.88		128.53
Total reserves.....	24,304.38	12,130.11	11,377.00	116,457.95	54,483.42
SURPLUS					
Debentures paid.....	11,187.80	12,654.80	2,158.51	5,000.00	10,459.60
Local sinking fund.....					
Operating surplus.....	17,758.96	3,070.05	2,508.20	103,818.10	34,546.52
Total surplus.....	28,946.76	15,724.85	4,666.71	108,818.10	45,006.12
Total liabilities, reserves and surplus..	53,455.14	31,742.69	17,014.25	229,881.64	103,232.12
Percentage of net debt to total assets..	0.5	16.5	10.2	3.2	5.9

“A”—Continued

Hydro Municipalities as at December 31, 1938

Tillsonburg 3,828	Toronto 648,309	Toronto Twp.	Trafalgar Twp. Area No. 1	Trafalgar Twp. Area No. 2	Wallaceburg 4,537	Wardsville 243
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
4,824.27	5,466,029.43	6,736.78			38,331.72	
29,598.71	14,637,890.37				11,287.22	
47,176.81	6,639,241.18	195,876.39	22,736.45	12,014.75	59,889.14	5,180.12
	4,115,730.07					
18,410.93	3,646,378.08	67,908.77	9,949.56	2,391.94	35,831.25	1,501.32
19,519.63	3,204,362.16	38,048.52	5,152.37	1,674.86	21,343.44	1,308.68
11,991.49	501,959.26	3,717.44			10,935.28	519.36
3,576.98	2,642,668.45	7,451.32	1,729.27	350.38	3,100.24	506.73
	3,570,474.01	619.65			20,941.07	193.94
135,098.82	44,424,733.01	320,358.87	39,567.65	16,431.93	201,659.36	9,210.15
50.00	989,887.60	17,978.41	1,788.65	2,705.81	20,550.13	1,349.28
9,000.00	1,156,018.60	10,000.00	4,000.00	4,000.00	20,000.00	
4,985.07	1,931,924.29	1,587.93	542.06	239.67	12,834.54	1,212.53
5,289.15	543,932.87				7,913.77	
	7,742,398.38					
75,354.93	16,197,463.50	91,801.04	2,195.95	685.22	161,185.99	3,148.28
	9,165.15					
229,777.97	72,995,523.40	441,726.25	48,094.31	24,062.63	424,143.79	14,920.24
229,777.97	72,995,523.40	441,726.25	48,094.31	24,062.63	424,143.79	14,920.24
4,234.12	19,548,140.02	33,643.79	7,146.67	9,461.15	28,242.27	1,864.19
27.15	1,746,712.20	4,699.78		39.50		15.14
5,286.62						
3,524.90	155,935.14	2,973.42			2,438.29	
13,072.79	21,450,787.36	41,316.99	7,146.67	9,500.65	30,680.56	1,879.33
75,354.93	16,197,463.50	91,801.04	2,195.95	685.22	161,185.99	3,148.28
38,681.50	9,103,162.43	123,869.98	17,165.86	2,694.65	58,966.38	3,058.74
906.06	1,192,632.16	232.47			1,312.03	
114,942.49	26,493,258.09	215,903.49	19,361.81	3,379.87	221,464.40	6,207.02
31,765.88	14,813,928.35	70,356.21	12,279.74		43,294.31	5,698.21
	7,742,398.38					
69,996.81	2,495,151.22	114,149.56	9,306.09	11,182.11	128,704.52	1,135.68
101,762.69	25,051,477.95	184,505.77	21,585.83	11,182.11	171,998.83	6,833.89
229,777.97	72,995,523.40	441,726.25	48,094.31	24,062.63	424,143.79	14,920.24
8.5	27.9	11.8	15.6	40.6	11.7	16.0

STATEMENT

Balance Sheets of Electrical Departments of

**NIAGARA
SYSTEM—Continued**

Municipality.....	Water- down 885	Water- ford 1,238	Waterloo 8,425	Watford 975	Welland 10,924
Population.....					
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	200.00	1,256.52	14,454.37	.....	75,313.71
Substation equipment.....			64,325.51		96,884.48
Distribution system—overhead.....	16,033.98	16,491.07	97,237.15	17,053.18	134,731.40
Distribution system—underground.....					7,475.04
Line Transformers.....	6,895.38	7,857.62	51,869.56	7,018.62	58,938.03
Meters.....	6,418.00	6,450.14	38,260.14	5,608.73	59,941.54
Street light equipment, regular.....	583.81	3,231.62	14,218.91	2,113.39	4,265.01
Street light equipment, ornamental.....			3,106.80		36,513.75
Miscellaneous construction expense.....	149.14	743.45	11,196.60	2,251.33	10,936.00
Steam or hydraulic plant.....					.....
Old plant.....			23,880.17	657.44	49,876.19
Total plant.....	30,280.31	36,030.42	318,549.21	34,702.69	534,875.15
Bank and cash balance.....	7,395.89	1,446.76	7,842.60	622.85	17,138.87
Securities and investments.....		5,300.00	35,000.00	6,800.00	11,580.17
Accounts receivable.....	1,347.16	791.22	1,769.06	2,296.09	14,356.78
Inventories.....			488.86	147.54	10,773.12
Sinking fund on local debentures.....			15,290.24		107,581.21
Equity in H-E.P.C. systems.....	19,935.44	27,720.56	224,717.52	19,789.86	259,479.20
Other assets.....					150.82
Total assets.....	58,958.80	71,288.96	603,657.49	64,359.03	955,935.32
Deficit.....					.....
Total.....	58,958.80	71,288.96	603,657.49	64,359.03	955,935.32
LIABILITIES					
Debenture balance.....			29,144.10		164,508.30
Accounts payable.....			3,384.13		10,167.47
Bank overdraft.....					.....
Other liabilities.....	121.10		3,106.80	250.84	44,381.13
Total liabilities.....	121.10		35,635.03	250.84	219,056.90
RESERVES					
For equity in H-E.P.C. systems.....	19,935.44	27,720.56	224,717.52	19,789.86	259,479.20
For depreciation.....	8,352.92	12,354.50	129,475.05	9,238.04	147,761.51
Other reserves.....			249.09	66.29	3,355.80
Total reserves.....	28,288.36	40,075.06	354,441.66	29,094.19	410,596.51
SURPLUS					
Debentures paid.....	8,000.00	7,745.53	76,855.90	9,713.21	110,491.70
Local sinking fund.....			15,290.24		107,581.21
Operating surplus.....	22,549.34	23,468.37	121,434.66	25,300.79	108,209.00
Total surplus.....	30,549.34	31,213.90	213,580.80	35,014.00	326,281.91
Total liabilities, reserves and surplus..	58,958.80	71,288.96	603,657.49	64,359.03	955,935.32
Percentage of net debt to total assets..	0.3	0.0	4.8	0.6	13.6

“A”—Continued

Hydro Municipalities as at December 31, 1938

Wellesley	West Lorne	Weston	Wheatley	Windsor	Woodbridge	Woodstock
P.V.	784	5,048	744	102,704	831	11,382
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	.....	11,903.31	.....	492,265.27	.....	40,007.94
.....	.....	62,938.54	.....	1,065,761.62	.....	121,390.93
7,289.77	11,927.29	61,994.58	16,038.75	1,235,116.52	17,246.53	120,243.72
.....	.....	.....	.....	143,231.71	.....	.....
2,175.97	4,326.79	39,276.47	4,331.83	551,431.65	6,624.62	62,926.54
2,625.60	3,650.68	26,390.64	4,359.72	508,134.44	4,953.68	60,376.18
545.11	789.45	29,819.70	1,738.74	56,239.31	574.03	15,747.35
.....	.....	.....	.....	1,021,495.33	.....	.....
270.42	347.14	13,858.80	986.14	191,742.59	989.63	9,232.17
.....
.....	1,250.00	.....	2,569.50	167,429.04	.....	.....
.....
12,906.87	22,291.35	246,182.04	30,024.68	5,432,847.48	30,388.49	429,924.83
.....
2,374.86	3,769.21	75.00	1,636.30	206,806.38	2,564.12	30,304.61
1,000.00	.....	.....	5,500.00	469,952.17	.....	84,000.00
511.78	424.18	1,274.81	1,475.57	243,360.03	894.29	2,946.59
.....	53.45	356.22	61.92	131,823.38	.....	784.81
.....	.....	.....	.....	49,699.16	.....	16,313.22
14,493.01	22,542.40	202,504.98	11,305.94	2,627,410.05	26,117.47	340,738.80
.....	.....	.....	40.00	.....	.....	.....
.....
31,286.52	49,080.59	450,393.05	50,044.41	9,161,898.65	59,964.37	905,012.86
.....
31,286.52	49,080.59	450,393.05	50,044.41	9,161,898.65	59,964.37	905,012.86
.....
.....	.....	20,706.30	4,645.35	986,738.83	3,323.62	19,205.42
.....	253.11	13,397.54	174.92	86,760.91	252.79	1,284.83
.....	.....	2,651.59	.....	.....	.....	.....
.....	100.00	2,683.21	30.00	1,127,050.50	469.01	7,365.23
.....
.....	353.11	39,438.64	4,850.27	2,200,550.24	4,045.42	27,855.48
.....
14,493.01	22,542.40	202,504.98	11,305.94	2,627,410.05	26,117.47	340,738.80
3,573.97	8,789.10	41,174.74	5,625.69	1,041,767.83	10,294.77	181,521.78
.....	43.14	689.71	.....	269,200.40	.....	16,824.30
.....
18,066.98	31,374.64	244,369.43	16,931.63	3,938,378.28	36,412.24	539,084.88
.....
7,500.00	8,000.00	49,326.14	8,354.65	1,597,093.22	5,176.35	108,180.21
.....	.....	.....	.....	49,699.16	.....	16,313.22
5,719.54	9,352.84	117,258.84	19,907.86	1,376,177.75	14,330.36	213,579.07
.....
13,219.54	17,352.84	166,584.98	28,262.51	3,022,970.13	19,506.71	338,072.50
.....
31,286.52	49,080.59	450,393.05	50,044.41	9,161,898.65	59,964.37	905,012.86
.....
0.0	1.3	15.9	12.5	20.6	12.0	2.1

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Concluded

Municipality.....	Wyoming	York Twp.	Zurich	NIAGARA SYSTEM SUMMARY
Population.....	528		P.V.	
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....				9,161,857.33
Substation equipment.....				21,518,978.96
Distribution system—overhead.....	8,807.68	678,356.98	7,201.33	18,332,940.41
Distribution system—underground.....				5,693,044.93
Line transformers.....	1,493.02		2,237.83	8,844,648.80
Meters.....	2,734.30		2,412.93	7,704,254.02
Street light equipment, regular.....	336.65	50,031.70	471.82	1,903,313.78
Street light equipment, ornamental.....				1,516,059.81
Miscellaneous construction expense.....	805.20	16,837.72	270.40	3,927,092.85
Steam or hydraulic plant.....				24,030.23
Old plant.....			150.00	4,375,623.75
Total plant.....	14,176.85	745,226.40	12,744.31	83,001,844.87
Bank and cash balance.....	1,524.50	143,108.96	630.32	2,521,566.51
Securities and investments.....			4,000.00	2,928,714.43
Accounts receivable.....	234.40		674.78	3,455,609.56
Inventories.....				1,200,903.81
Sinking fund on local debentures.....				9,351,560.77
Equity in H-E.P.C. systems.....	7,162.83	529,327.79	11,461.36	38,546,153.06
Other assets.....		14,260.21		127,957.54
Total assets.....	23,098.58	1,431,923.36	29,510.77	141,134,310.55
Deficit.....				1,106.15
Total.....	23,098.58	1,431,923.36	29,510.77	141,135,416.70
LIABILITIES				
Debenture balance.....		213,805.95	2,714.44	27,236,808.92
Accounts payable.....	661.96	25,198.84	13.05	2,967,725.62
Bank overdraft.....				71,178.78
Other liabilities.....	45.00		30.00	2,970,587.05
Total liabilities.....	706.96	239,004.79	2,757.49	33,246,300.37
RESERVES				
For equity in H-E.P.C. systems.....	7,162.83	529,327.79	11,461.36	38,546,153.06
For depreciation.....	4,579.84	224,922.74	6,019.95	18,511,277.24
Other reserves.....				2,265,981.43
Total reserves.....	11,742.67	754,250.53	17,481.31	59,323,411.73
SURPLUS				
Debentures paid.....	9,700.00	275,568.70	2,877.17	26,126,603.47
Local sinking fund.....				9,351,560.77
Operating surplus.....	948.95	163,099.34	6,394.80	13,087,540.36
Total surplus.....	10,648.95	438,668.04	9,271.97	48,565,704.60
Total liabilities, reserves and surplus.....	23,098.58	1,431,923.36	29,510.77	141,135,416.70
Percentage of net debt to total assets.....	4.4	26.5	15.3	24.4

“A”—Continued

Hydro Municipalities as at December 31, 1938

GEORGIAN BAY
SYSTEM

Alliston 1,340	Arthur 1,035	Barrie 8,135	Beaverton 949	Beeton 555	Bradford 988	Brechin P.V.	Canning- ton 764
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
675.73		16,415.88	299.50				
27,869.88	17,594.00	15,285.02		428.50	388.50		
		62,380.70	24,971.87	11,868.81	20,058.73	2,269.14	11,223.77
		66,437.67					
7,226.37	4,362.24	43,728.86	8,070.64	2,565.19	4,677.65	1,266.71	4,262.88
7,217.96	4,145.32	43,662.34	6,466.13	2,152.10	4,699.04	741.31	4,607.21
1,549.02	796.21	12,311.35	1,267.25	1,169.54	544.95	239.08	953.27
2,762.77	337.13	11,401.52	2,515.18	1,599.60	2,076.66	546.92	653.58
7,846.49	1,086.62		3,772.42				3,609.37
55,148.22	28,321.52	271,623.34	47,362.99	19,783.74	32,445.53	5,063.16	25,310.08
3,340.87	1,676.54	2,690.23	3,076.96	3,514.89	5,799.30	1,371.27	1,955.56
		9,000.00	7,000.00		1,000.00		2,326.62
3,225.36	1,461.02	14,797.28	2,395.65	1,638.55	3,185.00	808.58	760.28
		2,417.39					147.15
19,510.76	16,978.45	125,196.57	18,104.00	13,701.27	15,694.62	6,887.03	13,693.04
850.51	250.00	2,107.57	205.78		95.30		551.80
82,075.72	48,687.53	427,832.38	78,145.38	38,638.45	58,219.75	14,130.04	44,744.53
	8,888.65						
82,075.72	57,576.18	427,832.38	78,145.38	38,638.45	58,219.75	14,130.04	44,744.53
17,589.36	13,349.57	14,690.95	3,416.42	7,534.65	13,165.94	1,569.23	4,371.45
		668.72	792.64	556.60	531.57	420.46	96.60
15.00	250.00	2,493.12	516.59		160.00	24.85	54.00
17,604.36	13,599.57	17,852.79	4,725.65	8,091.25	13,857.51	2,014.54	4,522.05
19,510.76	16,978.45	125,196.57	18,104.00	13,701.27	15,694.62	6,887.03	13,693.04
17,531.55	15,347.73	88,931.44	13,738.85	8,970.83	11,714.82	2,308.47	10,903.62
93.72		3,050.06	225.00		60.00		169.74
37,136.03	32,326.18	217,178.07	32,067.85	22,672.10	27,469.44	9,195.50	24,766.40
22,410.64	11,650.43	50,674.73	11,583.58	7,465.35	12,034.06	1,641.69	10,628.55
4,924.69		142,126.79	29,768.30	409.75	4,858.74	1,278.31	4,827.53
27,335.33	11,650.43	192,801.52	41,351.88	7,875.10	16,892.80	2,920.00	15,456.08
82,075.72	57,576.18	427,832.38	78,145.38	38,638.45	58,219.75	14,130.04	44,744.53
28.1	42.9	5.9	7.9	32.4	32.6	27.8	14.6

STATEMENT

Balance Sheets of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality.....	Chatsworth 321	Chesley	Coldwater	Collingwood 5,478	Cookstown P.V.
Population.....		1,815	589		
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	364.89	6,000.00	275.00	15,950.08	70.00
Substation equipment.....		2,305.58		11,203.24	392.95
Distribution system—overhead....	5,092.56	21,188.95	8,964.22	50,551.05	9,649.63
Distribution system—underground..					
Line Transformers.....	1,639.93	7,311.13	2,920.61	19,231.96	2,512.10
Meters.....	1,667.11	7,187.05	2,994.45	22,961.68	2,217.67
Street light equipment, regular....	529.17	1,441.82	775.02	2,896.16	902.02
Street light equipment, ornamental..					
Miscellaneous construction expense.	394.84	3,695.34	303.08	2,061.71	1,540.29
Steam or hydraulic plant.....					
Old plant.....		5,503.60			
Total plant.....	9,688.50	54,633.47	16,232.38	124,855.88	17,284.66
Bank and cash balance.....	2,570.85	15.00	121.97	857.44	2,229.22
Securities and investments.....		5,000.00	4,000.00	24,000.00	3,000.00
Accounts receivable.....	1,239.18	1,241.07	3,571.71	12,684.86	1,229.51
Inventories.....		264.79		51.58	
Sinking fund on local debentures..					
Equity in H-E.P.C. systems.....	3,760.62	31,042.85	12,994.76	119,660.45	4,540.92
Other assets.....		249.55	363.98	444.71	63.57
Total assets.....	17,259.15	92,446.73	37,284.80	282,554.92	28,347.88
Deficit.....					
Total.....	17,259.15	92,446.73	37,284.80	282,554.92	28,347.88
LIABILITIES					
Debenture balance.....	113.99		2,056.66		4,840.95
Accounts payable.....	3.36	249.55	1,559.22	64.61	
Bank overdraft.....		1,403.78			
Other liabilities.....	82.50		202.00	2,179.99	20.00
Total liabilities.....	199.85	1,653.33	3,817.88	2,244.60	4,860.95
RESERVES					
For equity in H-E.P.C. systems....	3,760.62	31,042.85	12,994.76	119,660.45	4,540.92
For depreciation.....	3,209.13	18,689.15	9,358.64	58,639.67	7,429.14
Other reserves.....			70.43	446.45	
Total reserves.....	6,969.75	49,732.00	22,423.83	178,746.57	11,970.06
SURPLUS					
Debentures paid.....	5,286.01	27,500.00	4,943.34	38,183.42	8,659.05
Local sinking fund.....					
Operating surplus.....	4,803.54	13,561.40	6,099.75	63,380.33	2,857.82
Total surplus.....	10,089.55	41,061.40	11,043.09	101,563.75	11,516.87
Total liabilities, reserves and surplus..	17,259.15	92,446.73	37,284.80	282,554.92	28,347.88
Percentage of net debt to total assets..	1.5	2.7	15.7	1.4	20.4

“A”—Continued

Hydro Municipalities as at December 31, 1938

Creemore 632	Dundalk 666	Durham 1,852	Elmvale P.V.	Elmwood P.V.	Flesherton 447	Grand Valley 600	Graven- hurst 2,052
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	.....	56.59	106.25	.....	392.52	36.50	8,906.15
.....	.....	546.02	2,273.07	.....	.....	.....	10,986.03
7,644.47	8,228.20	22,361.89	9,451.04	4,871.52	5,938.38	11,540.48	33,420.87
.....	.....	.....	.....	.....	.....	.....	1,941.77
3,676.20	3,761.90	8,165.09	4,517.64	833.38	1,797.67	2,179.63	13,081.92
3,099.60	2,843.44	7,632.54	3,808.48	1,183.41	2,322.87	3,235.44	11,733.74
358.56	1,094.60	1,521.57	447.17	330.56	720.51	987.12	4,442.48
.....
36.62	317.93	1,610.15	528.04	1,093.62	1,053.35	222.08	2,981.23
.....
.....	.....	2,091.39	.....	.....	.....	.....	18,130.29
14,815.45	16,246.07	43,985.24	21,131.69	8,312.49	12,225.30	18,201.25	105,624.48
.....
1,031.51	3,231.33	4,650.79	3,312.28	1,570.11	835.86	2,008.19	1,206.93
3,000.00	3,000.00	7,000.00	2,500.00	3,000.00	4,000.00	5,128.60	.....
1,327.08	657.54	1,397.77	761.23	270.48	697.09	673.20	3,193.04
.....	6.50	631.99	.....	.....	.....	.....	803.39
.....	.....	.....	.....	470.40	.....	.....	10,274.02
10,362.51	10,633.46	27,269.42	13,357.70	3,514.67	5,817.84	10,452.75	22,884.94
.....	.....	98.36	61.01	.....	.....	.....	797.20
.....
30,536.55	33,774.90	85,033.57	41,123.91	17,138.15	23,576.09	36,463.99	144,784.00
.....
30,536.55	33,774.90	85,033.57	41,123.91	17,138.15	23,576.09	36,463.99	144,784.00
.....
.....	.....	.....	1,614.65	700.04	2,262.08	.....	10,000.00
46.88	6.25	22.16	49.99	27.31	10.60	623.29	7,541.23
.....
132.00	.....	.....	23.00	.....	.....	.....	587.50
.....
178.88	6.25	22.16	1,687.64	727.35	2,272.68	623.29	18,128.73
.....
10,362.51	10,633.46	27,269.42	13,357.70	3,514.67	5,817.84	10,452.75	22,884.94
5,262.54	5,968.24	14,463.52	9,928.97	3,940.09	4,778.21	7,889.44	22,393.42
.....	.....	.....	50.00	.....	332.24	.....	632.44
.....
15,625.05	16,601.70	41,732.94	23,336.67	7,454.76	10,928.29	18,342.19	45,910.80
.....
2,823.61	5,955.96	25,800.00	5,385.35	6,499.96	4,437.92	11,000.00	53,968.41
.....	.....	.....	.....	470.40	.....	.....	10,274.02
11,909.01	11,210.99	17,478.47	10,714.25	1,985.68	5,937.20	6,498.51	16,502.04
.....
14,732.62	17,166.95	43,278.47	16,099.60	8,956.04	10,375.12	17,498.51	80,744.47
.....
30,536.55	33,774.90	85,033.57	41,123.91	17,138.15	23,576.09	36,463.99	144,784.00
.....
0.9	0.0	0.0	6.1	2.0	12.8	2.4	7.0

STATEMENT

Balance Sheets of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality.....	Hanover	Holstein	Huntsville	Kincardine	Kirkfield
Population.....	3,191	P.V.	2,707	2,458	P.V.
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	3,001.32	.....	353.52	6,531.80	.....
Substation equipment.....	9,271.19	.....	647.30	2,794.20	.....
Distribution system—overhead....	50,130.92	2,117.63	21,078.72	43,909.02	5,157.99
Distribution system—underground..	.....	.....	.....	.....	.....
Line transformers.....	19,660.33	685.79	10,933.92	11,894.65	557.90
Meters.....	16,778.14	651.36	11,891.61	11,698.13	737.11
Street light equipment, regular....	2,350.30	170.44	7,348.39	5,864.19	379.00
Street light equipment, ornamental.	.....	.....	.....	.....	.....
Miscellaneous construction expense.	6,639.90	189.35	1,165.64	5,334.32	301.53
Steam or hydraulic plant.....	.....	.....	.....	.....	.....
Old plant.....	2,370.91	.....	5,226.20	.....	.....
Total plant.....	110,203.01	3,814.57	58,645.30	88,026.31	7,133.53
Bank and cash balance.....	2,718.12	732.13	573.76	2,299.17	1,098.09
Securities and investments.....	25,059.38	1,500.00	11,207.42	.....	.....
Accounts receivable.....	5,496.78	22.75	3,371.50	5,313.77	386.66
Inventories.....	.....	.....	2,904.64	500.37	.....
Sinking fund on local debentures..	.....	.....	.....	.....	.....
Equity in H-E.P.C. systems.....	71,129.41	2,354.00	49,876.98	35,154.02	2,777.48
Other assets.....	888.10	.....	335.96	1,154.38	.....
Total assets.....	215,494.80	8,423.45	126,915.56	132,448.02	11,395.76
Deficit.....	.....	.....	.....	.....	1,573.97
Total.....	215,494.80	8,423.45	126,915.56	132,448.02	12,969.73
LIABILITIES	.....	.....	.....	.....	.....
Debenture balance.....	6,019.68	.....	235.40	12,259.92	493.46
Accounts payable.....	524.99	294.71	31.27	29.00	1,115.97
Bank overdraft.....	.....	.....	.....	.....	.....
Other liabilities.....	19.00	.....	882.66	.....	.....
Total liabilities.....	6,563.67	294.71	1,149.33	12,288.92	1,609.43
RESERVES	.....	.....	.....	.....	.....
For equity in H-E.P.C. systems....	71,129.41	2,354.00	49,876.98	35,154.02	2,777.48
For depreciation.....	52,459.63	1,583.90	13,077.69	26,670.83	3,076.28
Other reserves.....	.....	.....	2,800.00	.....	.....
Total reserves.....	123,589.04	3,937.90	65,754.67	61,824.85	5,853.76
SURPLUS	.....	.....	.....	.....	.....
Debentures paid.....	81,480.32	2,762.05	20,898.14	51,940.08	5,506.54
Local sinking fund.....	.....	.....	.....	.....	.....
Operating surplus.....	3,861.77	1,428.79	39,113.42	6,394.17	.....
Total surplus.....	85,342.09	4,190.84	60,011.56	58,334.25	5,506.54
Total liabilities, reserves and surplus..	215,494.80	8,423.45	126,915.56	132,448.02	12,969.73
Percentage of net debt to total assets..	4.5	4.9	1.5	12.6	18.7

“A”—Continued

Hydro Municipalities as at December 31, 1938

Lucknow 1,036	Markdale 781	Meaford 2,719	Midland 6,669	Mildmay 746	Mount Forest 1,946	Neustadt 441	Orange- ville 2,479
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	780.80	1,144.18	19,983.57	.....	3,725.00	.....	2,585.07
18,187.64	10,598.21	3,849.47	85,096.20	.....	686.75	.....	1,169.00
.....	.....	32,355.73	95,550.20	6,103.22	23,141.34	9,995.44	34,898.91
5,244.47	4,151.74	8,489.97	24,740.53	1,657.05	7,264.19	4,146.92	9,222.03
5,027.79	4,020.82	8,530.42	38,098.51	2,699.64	8,189.23	2,213.67	12,865.50
1,475.15	1,390.15	3,388.35	19,139.42	561.88	2,397.89	496.41	7,532.55
2,415.24	635.80	2,477.22	4,073.00	1,337.91	2,250.59	1,510.48	6,328.26
.....	2,080.65	3,452.38	.....	849.00	3,810.95	1,097.60	3,204.99
32,350.29	23,658.17	63,687.72	286,681.43	13,208.70	51,465.94	19,460.52	77,806.31
2,912.89	1,963.96	2,013.04	11,019.87	1,478.06	1,321.72	2,390.77	1,718.32
3,000.00	4,255.13	15,299.90	40,932.13	2,500.00	4,000.00	2,000.00	9,500.00
2,788.23	1,968.02	2,934.99	11,314.95	732.38	1,822.99	578.34	2,995.44
.....	.....	.....	3,068.68	.....	28.00	41.94	416.24
16,495.19	8,657.55	24,456.63	189,935.15	2,073.55	27,365.76	5,804.97	37,309.33
.....	.....	128.44	1,398.44	.....	.....	.....	307.00
57,546.60	40,502.83	108,520.72	544,350.65	19,992.69	86,004.41	30,276.54	130,052.64
.....	.....	.....	.....	.....	.....	1,804.09	.....
57,546.60	40,502.83	108,520.72	544,350.65	19,992.69	86,004.41	32,080.63	130,052.64
5,091.84	3,650.60	22,226.75	.....	9,955.24	7,982.18	959.15	182.70
1,014.71	791.94	82.36	51.55	8.73	1,500.00	.....	22.26
.....	22.00	1,291.01	856.95	.....	.....	.....	5.00
6,106.55	4,464.54	23,600.12	908.50	9,963.97	9,482.18	959.15	209.96
16,495.19	8,657.55	24,456.63	189,935.15	2,073.55	27,365.76	5,804.97	37,309.33
8,412.92	7,252.22	13,174.16	158,628.98	1,398.00	18,792.93	9,275.66	26,568.39
.....	.....	65.00	2,894.54	.....	.....	.....	.....
24,908.11	15,909.77	37,695.79	351,458.67	3,471.55	46,158.69	15,080.63	63,877.72
14,631.52	5,349.40	27,133.45	111,944.99	2,348.26	22,976.42	16,040.85	35,717.30
11,900.42	14,779.12	20,091.36	80,038.49	4,208.91	7,387.12	.....	30,247.66
26,531.94	20,128.52	47,224.81	191,983.48	6,557.17	30,363.54	16,040.85	65,964.96
57,546.60	40,502.83	108,520.72	544,350.65	19,992.69	86,004.41	32,080.63	130,052.64
14.9	14.0	28.0	0.3	55.6	16.2	3.9	0.2

STATEMENT

Balance Sheets of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality.....	Owen Sound 13,118	Paisley 773	Penetan- guishene 4,177	Port Elgin 1,293	Port McNicoll 911
Population.....					
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	26,023.81		2,288.05	111.25	369.08
Substation equipment.....	15,131.59	1,923.46	7,106.39		
Distribution system—overhead....	111,721.66	11,737.20	47,585.44	26,858.79	8,901.98
Distribution system—underground..					
Line Transformers.....	49,711.01	1,715.03	19,023.70	6,400.57	1,400.23
Meters.....	61,157.12	3,143.39	15,247.34	7,102.54	2,660.40
Street light equipment, regular....	30,354.14	1,045.51	3,829.44	2,270.59	614.82
Street light equipment, ornamental..					
Miscellaneous construction expense.	3,864.69	786.65	1,306.58	1,265.69	767.64
Steam or hydraulic plant.....	33,282.00				
Old plant.....		1,745.00		4,213.00	
Total plant.....	331,246.02	22,096.24	96,386.94	48,222.43	14,714.15
Bank and cash balance.....		1,110.14	2,748.29	4,178.24	1,282.86
Securities and investments.....	37,000.00	4,000.00	1,016.65	10,000.00	
Accounts receivable.....	13,263.91	1,335.21	6,574.54	414.50	269.61
Inventories.....	9,752.48		68.77		
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	174,616.20	9,344.82	54,827.33	7,763.52	5,411.07
Other assets.....	381.19		241.86		
Total assets.....	566,259.80	37,886.41	161,864.38	70,578.69	21,677.69
Deficit.....					
Total.....	566,259.80	37,886.41	161,864.38	70,578.69	21,677.69
LIABILITIES					
Debenture balance.....		5,717.37	6,042.01	29,870.68	553.20
Accounts payable.....	145.80		667.07	3,600.07	
Bank overdraft.....	7,548.47				
Other liabilities.....	4,590.81	65.00	407.50		110.00
Total liabilities.....	12,285.08	5,782.37	7,116.58	33,470.75	663.20
RESERVES					
For equity in H-E.P.C. systems....	174,616.20	9,344.82	54,827.33	7,763.52	5,411.07
For depreciation.....	69,829.27	6,021.45	40,238.31	6,578.52	4,986.91
Other reserves.....	10,737.29		1,600.00		
Total reserves.....	255,182.76	15,366.27	96,665.64	14,342.04	10,397.98
SURPLUS					
Debentures paid.....	141,000.00	10,282.63	30,940.94	12,129.32	6,746.80
Local sinking fund.....					
Operating surplus.....	157,791.96	6,455.14	27,141.22	10,636.58	3,869.71
Total surplus.....	298,791.96	16,737.77	58,082.16	22,765.90	10,616.51
Total liabilities, reserves and surplus..	566,259.80	37,886.41	161,864.38	70,578.69	21,677.69
Percentage of net debt to total assets..	3.1	20.3	6.6	53.3	4.1

“A”—Continued

Hydro Municipalities as at December 31, 1938

Port Perry	Priceville	Ripley	Rosseau	Shelburne	Southamp- ton	Stayner	Sunderland
1,118	P.V.	432	300	1,099	1,202	1,034	P.V.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
2,564.65	68.00			800.00	25.00		
19,854.99	5,191.63	10,037.32	7,326.91	566.60	25,342.80	200.00	4,264.49
15,021.74				15,021.74	25,342.80	15,667.61	
5,099.65	702.86	3,693.93	2,204.63	6,124.57	7,028.23	6,272.61	1,523.48
4,341.30	470.60	1,708.18	1,158.48	6,538.06	8,452.66	6,308.01	2,167.82
1,695.79	139.88	844.33	623.60	1,059.60	2,275.72	1,003.31	627.74
143.17	833.90	1,231.55	1,265.00	2,223.26	1,352.18	428.63	181.42
				739.50	2,477.00		2,030.00
33,699.55	7,406.87	17,515.31	12,578.62	33,073.33	46,953.59	29,880.17	10,794.95
1,036.93	360.61	2,792.10	1,257.48	1,747.07	1,267.18	904.61	1,240.93
10,000.00				7,500.00		4,000.00	
764.79	289.73	864.99	691.50	640.83	916.78	1,460.91	366.83
14,416.65	822.68	6,519.08	2,636.55	16,422.06	6,933.46	14,109.02	9,041.00
			72.80	202.50			142.08
59,917.92	8,879.89	27,691.48	17,236.95	59,585.79	56,071.01	50,354.71	21,585.79
	1,399.37		90.07				
59,917.92	10,279.26	27,691.48	17,327.02	59,585.79	56,071.01	50,354.71	21,585.79
10,494.74	959.17	8,108.06	11,007.86	396.23	16,258.72		
1,193.43	5.92		3.00	964.42	28.12	136.32	16.92
628.00		180.83		50.98	10.67	195.00	
12,316.17	965.09	8,288.89	11,010.86	1,411.63	16,297.51	331.32	16.92
14,416.65	822.68	6,519.08	2,636.55	16,422.06	6,933.46	14,109.02	9,041.00
9,250.86	2,450.66	5,401.31	1,687.47	14,430.88	4,900.86	12,327.98	4,749.44
						60.00	
23,667.51	3,273.34	11,920.39	4,324.02	30,852.94	11,834.32	26,497.00	13,790.44
9,386.92	6,040.83	5,863.88	1,992.14	19,523.77	16,741.21	9,867.59	6,800.00
14,547.32		1,618.32		7,797.45	11,197.97	13,658.80	978.43
23,934.24	6,040.83	7,482.20	1,992.14	27,321.22	27,939.18	23,526.39	7,778.43
59,917.92	10,279.26	27,691.48	17,327.02	59,585.79	56,071.01	50,354.71	21,585.79
27.1	10.9	39.1	75.4	3.3	33.2	0.9	0.1

STATEMENT

Balance Sheets of Electrical Departments of

GEORGIAN BAY SYSTEM—Concluded

Municipality.....	Tara	Teeswater	Thornton	Tottenham	Uxbridge
Population.....	472	838	P.V.	526	1,527
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....					40.00
Substation equipment.....		330.31		358.50	2,657.65
Distribution system—overhead....	11,206.46	17,544.06	6,490.82	8,455.96	14,791.07
Distribution system—underground.					
Line transformers.....	2,697.42	5,362.15	1,015.06	1,376.38	4,135.02
Meters.....	1,862.85	3,643.86	924.56	2,273.51	5,219.99
Street light equipment, regular....	2,602.39	1,488.82	381.95	466.26	1,489.77
Street light equipment, ornamental.					
Miscellaneous construction expense.	1,436.84	1,842.49	300.35	1,329.73	1,004.12
Steam or hydraulic plant.....					
Old plant.....		4,976.86		286.45	
Total plant.....	19,805.96	35,188.55	9,112.74	14,546.79	29,337.62
Bank and cash balance.....	2,810.90	383.54	875.79	1,229.14	3,627.84
Securities and investments.....		2,500.00			
Accounts receivable.....	479.69	1,125.91	842.15	1,488.42	1,191.01
Inventories.....	11.23				
Sinking fund on local debentures.					
Equity in H-E.P.C. systems.....	7,309.52	10,461.94	2,885.19	9,169.54	15,217.55
Other assets.....				100.10	145.01
Total assets.....	30,417.30	49,659.94	13,715.87	26,533.99	49,519.03
Deficit.....	649.09		2,138.67	2,253.94	
Total.....	31,066.39	49,659.94	15,854.54	28,787.93	49,519.03
LIABILITIES					
Debenture balance.....	1,236.05	5,288.06	849.69	5,378.06	
Accounts payable.....	469.64		59.25	32.72	100.00
Bank overdraft.....					
Other liabilities.....		33.00		306.00	288.85
Total liabilities.....	1,705.69	5,321.06	908.94	5,716.78	388.85
RESERVES					
For equity in H-E.P.C. systems....	7,309.52	10,461.94	2,885.19	9,169.54	15,217.55
For depreciation.....	7,787.23	8,011.23	5,410.10	6,312.57	6,993.71
Other reserves.....					100.00
Total reserves.....	15,096.75	18,473.17	8,295.29	15,482.11	22,311.26
SURPLUS					
Debentures paid.....	14,263.95	22,711.94	6,650.31	7,589.04	16,207.59
Local sinking fund.....					
Operating surplus.....		3,153.77			10,611.33
Total surplus.....	14,263.95	25,865.71	6,650.31	7,589.04	26,818.92
Total liabilities, reserves and surplus..	31,066.39	49,659.94	15,854.54	28,787.93	49,519.03
Percentage of net debt to total assets..	7.4	13.6	8.4	32.9	1.1

“A”—Continued

Hydro Municipalities as at December 31, 1938

Victoria Harbor 1,092	Walkerton 2,358	Waubaushene P.V.	Warton 1,743	Windermere 128	Wingham 2,085	Woodville 418	GEORGIAN BAY SYSTEM SUMMARY
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
			200.00		21,418.30		137,541.31
					4,863.91		184,482.61
9,888.88	41,887.68	9,477.16	21,477.67	9,498.60	40,549.75	3,317.75	1,234,463.55
							68,379.44
1,796.97	12,679.21	2,673.79	5,520.77	3,289.95	16,629.49	1,995.54	426,511.44
2,975.69	11,596.67	2,656.46	6,141.51	1,081.83	15,984.07	2,270.56	447,068.28
366.32	2,548.25	303.35	2,121.22	247.26	3,489.76	521.83	150,183.20
663.80	2,572.26	335.74	5,750.22	525.65	4,651.22	291.11	108,744.77
					14,711.99		47,993.99
	4,897.60		2,011.79		12,320.02	2,182.50	102,012.58
15,691.66	76,181.67	15,446.50	43,223.18	14,643.29	134,618.51	10,579.29	2,907,381.17
2,342.56	3,402.22	78.69	5,614.38	1,400.06	5,013.60	385.61	126,397.77
			10,000.00		4,000.00	5,000.00	297,225.83
1,081.57	5,409.32	1,406.82	3,330.33	578.52	6,361.65	1,478.66	149,570.46
	1,280.41				4,000.05		26,395.60
							10,744.42
5,689.23	12,852.23	3,527.16	10,314.99	1,880.32	30,710.52	8,868.19	1,421,198.47
	915.86					88.53	12,641.59
24,805.02	100,041.71	20,459.17	72,482.88	18,502.19	184,704.33	26,400.28	4,951,555.31
							18,797.85
24,805.02	100,041.71	20,459.17	72,482.88	18,502.19	184,704.33	26,400.28	4,970,353.16
	47,487.18		29,706.58	9,536.38	27,105.23	1,496.87	383,825.00
124.97	1,410.88	1,747.80	3,001.07		56.83	66.87	32,569.63
							8,952.25
	118.00		40.00		580.45		17,422.27
124.97	49,016.06	1,747.80	32,747.65	9,536.38	27,742.52	1,563.74	442,769.15
5,689.23	12,852.23	3,527.16	10,314.99	1,880.32	30,710.52	8,868.19	1,421,198.47
5,885.59	7,869.02	2,593.67	4,669.82	2,339.40	34,233.26	7,702.78	959,431.36
		125.00				500.00	24,011.91
11,574.82	20,721.25	6,245.83	14,984.81	4,219.72	64,943.78	12,070.97	2,404,641.74
6,500.00	15,512.82	3,500.00	7,693.42	2,226.92	69,000.27	4,003.13	1,180,436.80
							10,744.42
6,605.23	14,791.58	8,965.54	17,057.00	2,519.17	23,017.76	8,762.44	931,761.05
13,105.23	30,304.40	12,465.54	24,750.42	4,746.09	92,018.03	12,765.57	2,122,942.27
24,805.02	100,041.71	20,459.17	72,482.88	18,502.19	184,704.33	26,400.28	4,970,353.16
0.7	56.2	10.3	52.7	57.4	18.0	8.9	12.3

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM

Municipality.....	Alexandria	Apple Hill	Athens	Bath	Belleville
Population.....	1,919	P.V.	691	346	14,560
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	202.00	169.06			41,461.11
Substation equipment.....					76,367.97
Distribution system—overhead....	28,388.17	2,935.47	14,202.27	6,301.10	119,937.29
Distribution system—underground..					
Line Transformers.....	8,526.59	1,288.37	2,186.03	1,376.40	29,322.91
Meters.....	7,313.54	1,113.07	3,049.94	792.21	61,875.70
Street light equipment, regular....	2,224.20	421.12	698.90	554.37	22,411.43
Street light equipment, ornamental..					
Miscellaneous construction expense.	5,112.62	265.28	1,011.61	727.38	6,421.72
Steam or hydraulic plant.....					
Old plant.....	4,466.89	709.55			
Total plant.....	56,234.01	6,901.92	21,148.75	9,751.46	357,798.13
Bank and cash balance.....	5,977.54	1,652.87	691.80	79.94	17,452.16
Securities and investments.....	5,000.00		3,500.00		5,000.00
Accounts receivable.....	5,775.27	389.77	2,108.99	35.11	45,769.24
Inventories.....					9,197.74
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	26,692.13	2,815.18	4,977.16	1,618.55	135,803.85
Other assets.....					
Total assets.....	99,678.95	11,759.74	32,426.70	11,485.06	571,021.12
Deficit.....				146.70	
Total.....	99,678.95	11,759.74	32,426.70	11,631.76	571,021.12
LIABILITIES					
Debenture balance.....	6,394.97	1,532.53	8,830.36	6,018.43	
Accounts payable.....		149.23		1,157.21	31,176.87
Bank overdraft.....					
Other liabilities.....	529.22			70.00	7,956.53
Total liabilities.....	6,924.19	1,681.76	8,830.36	7,245.64	39,133.40
RESERVES					
For equity in H-E.P.C. systems....	26,692.13	2,815.18	4,977.16	1,618.55	135,803.85
For depreciation.....	17,658.16	2,230.26	4,089.58	1,286.00	41,810.24
Other reserves.....	567.98		206.06		2,233.76
Total reserves.....	44,918.27	5,045.44	9,272.80	2,904.55	179,847.85
SURPLUS					
Debentures paid.....	41,738.87	4,467.47	5,169.64	1,481.57	176,000.00
Local sinking fund.....					
Operating surplus.....	6,097.62	565.07	9,153.90		176,039.87
Total surplus.....	47,836.49	5,032.54	14,323.54	1,481.57	352,039.87
Total liabilities, reserves and surplus..	99,678.95	11,759.74	32,426.70	11,631.76	571,021.12
Percentage of net debt to total assets..	9.5	18.8	32.2	73.4	9.0

“A”—Continued

Hydro Municipalities as at December 31, 1938

Bloomfield 666	Bowman- ville 3,850	Brighton 1,366	Brockville 9,983	Cardinal 1,529	Carleton Place 4,278	Chester- ville 1,068	Cobden 621
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	28,628.36	600.00	45,295.14	.....	13,390.32	335.00	.....
410.00	894.47	.....	23,185.98	.....	2,471.63	.....	.....
11,276.80	49,530.99	15,792.82	95,891.14	13,597.18	44,716.28	10,504.55	3,995.49
.....
2,251.58	9,419.03	5,533.88	44,495.08	3,359.52	12,390.87	3,688.10	893.01
2,999.15	18,948.13	7,657.61	48,424.37	3,226.21	17,970.16	4,818.87	879.73
908.20	7,857.04	821.98	26,101.73	491.85	6,691.85	593.64	444.46
.....
1,403.42	5,792.62	995.99	2,942.02	1,057.87	5,992.78	922.50	45.86
.....	.....	.....	46,965.86	.....	.....	.....	.....
.....	.....	.....	4,821.76	3,474.80	5,289.19	.....	2,853.85
.....
19,249.15	121,070.64	31,402.28	338,123.08	25,207.43	108,913.08	20,862.66	9,112.40
.....
3,359.74	6,243.88	81.40	1,516.97	107.05	2,670.94	551.01	2,580.78
.....	.....	.....	103,000.00	3,000.00	20,000.00	9,000.00	.....
317.31	9,073.17	5,026.39	9,761.67	149.57	6,312.18	2,089.44	504.23
.....	4,956.21	5,486.02	2,497.59	.....	1,486.48	580.36	.....
.....
4,985.86	43,860.54	8,885.98	145,339.54	4,090.60	66,856.86	23,997.27	606.64
.....
.....
27,912.06	185,204.44	50,882.07	600,238.85	32,554.65	206,239.54	57,080.74	12,804.05
.....
.....
27,912.06	185,204.44	50,882.07	600,238.85	32,554.65	206,239.54	57,080.74	12,804.05
.....
.....
4,789.22	28,872.63	13,988.91	.....	10,068.19	29,242.79	.....	5,914.34
.....	.....	91.28	1,443.33	132.71	.....	1,080.64	13.65
.....
114.00	1,208.97	157.78	42.40	.....	1,148.35	.....	87.50
.....
4,903.22	30,081.60	14,237.97	1,485.73	10,200.90	30,391.14	1,080.64	6,015.49
.....
.....
4,985.86	43,860.54	8,885.98	145,339.54	4,090.60	66,856.86	23,997.27	606.64
6,726.96	11,390.48	3,358.37	109,969.11	2,000.54	13,479.56	6,424.00	362.29
.....	.....	645.22	15,150.75	50.00	1,265.58	.....	.....
.....
11,712.82	55,251.02	12,889.57	270,459.40	6,141.14	81,602.00	30,421.27	968.93
.....
.....
6,410.78	42,127.37	11,011.09	226,657.54	4,931.81	36,757.21	6,500.00	1,888.93
.....
4,885.24	57,744.45	12,743.44	101,636.18	11,280.80	57,489.19	19,078.83	3,930.70
.....
11,296.02	99,871.82	23,754.53	328,293.72	16,212.61	94,246.40	25,578.83	5,819.63
.....
27,912.06	185,204.44	50,882.07	600,238.85	32,554.65	206,239.54	57,080.74	12,804.05
.....
21.4	21.3	33.9	0.3	35.8	21.8	3.3	49.3

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality.....	Cobourg	Colborne	Deseronto	Finch	Hastings
Population.....	5,125	964	1,300	371	762
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	29,949.68		597.41		
Substation equipment.....	1,668.35		161.18		
Distribution system—overhead....	76,501.82	10,637.94	10,414.62	7,809.39	16,856.81
Distribution system—underground.					
Line transformers.....	24,023.88	1,117.89	1,702.57	1,968.10	2,508.69
Meters.....	29,961.57	2,424.10	4,898.29	1,868.82	3,387.16
Street light equipment, regular....	12,753.08	1,444.81	432.60	478.87	1,267.44
Street light equipment, ornamental.					
Miscellaneous construction expense.	5,217.34	3,873.87	450.72	115.08	744.60
Steam or hydraulic plant.....					
Old plant.....					1,733.13
Total plant.....	180,075.72	19,498.61	18,657.39	12,240.26	26,497.83
Bank and cash balance.....	200.00	1,448.21	990.82	823.28	237.00
Securities and investments.....		3,500.00		3,000.00	5,500.00
Accounts receivable.....	17,023.39	283.87	1,117.99	683.78	610.06
Inventories.....	5,027.16	1,083.29	854.21		
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	32,471.66	2,663.53	5,407.46	3,493.86	2,763.88
Other assets.....	11,515.82				
Total assets.....	246,313.75	28,477.51	27,027.87	20,241.18	35,608.77
Deficit.....					
Total.....	246,313.75	28,477.51	27,027.87	20,241.18	35,608.77
LIABILITIES					
Debenture balance.....	83,172.45	10,303.74	2,026.88	4,151.01	16,021.13
Accounts payable.....	5,879.56	550.91	183.16		625.62
Bank overdraft.....	5,104.04				
Other liabilities.....	15,751.21	223.00	272.12	15.00	186.00
Total liabilities.....	109,907.26	11,077.65	2,482.16	4,166.01	16,832.75
RESERVES					
For equity in H-E.P.C. systems....	32,471.66	2,663.53	5,407.46	3,493.86	2,763.88
For depreciation.....	18,199.21	1,620.00	2,980.92	2,204.63	3,207.78
Other reserves.....				10.59	
Total reserves.....	50,670.87	4,283.53	8,388.38	5,709.08	5,971.66
SURPLUS					
Debentures paid.....	22,821.05	1,890.85	12,973.12	2,848.99	4,978.87
Local sinking fund.....					
Operating surplus.....	62,914.57	11,225.48	3,184.21	7,517.10	7,825.49
Total surplus.....	85,735.62	13,116.33	16,157.33	10,366.09	12,804.36
Total liabilities, reserves and surplus..	246,313.75	28,477.51	27,027.87	20,241.18	35,608.77
Percentage of net debt to total assets..	51.4	42.5	11.0	24.9	51.2

“A”—Continued

Hydro Municipalities as at December 31, 1938

Havelock	Kemptville	Kingston	Lakefield	Lanark	Lancaster	Lindsay
1,164	1,204	24,331	1,332	702	588	7,294
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
572.90	2,475.18	213,929.81	3,137.97			10,556.68
19,831.40	20,812.21	225,892.11				3,176.56
		179,878.73	22,282.95	6,760.35	6,455.81	91,378.92
		186,321.18				
2,796.25	6,582.91	66,662.90	5,969.77	1,114.23	1,044.32	25,927.87
5,510.31	7,192.71	112,242.10	7,447.14	1,959.95	1,690.03	32,452.86
1,883.33	1,063.16	77,882.40	1,876.05	709.28	650.65	10,334.23
4,620.91	7,126.23	56,796.48	3,840.10	326.94	1,068.55	6,027.94
		17,670.80				
2,420.45			3,445.25			
37,635.55	45,252.40	1,137,276.51	47,999.23	10,870.75	10,909.36	179,855.06
2,529.93	373.18	29,847.13	2,538.94	3,461.32	4,810.76	7,080.32
10,000.00	20,000.00	111,175.00	8,000.00	1,982.05		55,000.00
114.56	1,804.47	24,052.37	1,141.72	132.46	309.79	7,811.14
	625.42	13,292.21				310.66
		20,937.09				
10,135.66	17,314.44	20,157.74	10,347.42	5,257.21	5,336.57	74,555.13
		22,739.25				
60,415.70	85,369.91	1,379,477.30	70,027.31	21,703.79	21,366.48	324,612.31
60,415.70	85,369.91	1,379,477.30	70,027.31	21,703.79	21,366.48	324,612.31
5,827.95	15,226.99	54,855.00	20,929.93	658.81		80,549.58
11.00	1,174.37	2,229.72		39.53	246.60	114.66
		5,437.37	634.80	30.00	158.36	2,430.97
5,838.95	16,401.36	62,522.09	21,564.73	728.34	404.96	83,095.21
10,135.66	17,314.44	20,157.74	10,347.42	5,257.21	5,336.57	74,555.13
10,516.06	11,550.75	235,948.62	14,470.70	3,256.25	3,859.00	34,486.06
		144,932.02				
20,651.72	28,865.19	401,038.38	24,818.12	8,513.46	9,195.57	109,041.19
27,072.05	9,773.01	257,045.00	12,570.07	6,902.66	9,970.42	49,450.42
		20,937.09				
6,852.98	30,330.35	637,934.74	11,074.39	5,559.33	1,795.53	83,025.49
33,925.03	40,103.36	915,916.83	23,644.46	12,461.99	11,765.95	132,475.91
60,415.70	85,369.91	1,379,477.30	70,027.31	21,703.79	21,366.48	324,612.31
11.1	24.1	3.1	36.1	4.4	2.5	33.2

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality.....	Madoc	Marmora	Martin- town P.V.	Maxville	Napanee
Population.....	1,210	1,014		758	3,018
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	100.00		126.15		3,824.74
Substation equipment.....				407.79	
Distribution system—overhead....	11,452.50	13,609.20	2,756.79	11,739.97	43,438.75
Distribution system—underground..					
Line Transformers.....	3,271.56	3,629.11	690.33	1,849.12	10,127.19
Meters.....	5,167.43	3,976.42	955.81	2,529.30	17,538.07
Street light equipment, regular....	1,577.14	1,193.23	335.26	1,908.93	4,129.93
Street light equipment, ornamental..					
Miscellaneous construction expense.	274.23	2,229.87	727.17	2,368.48	5,276.25
Steam or hydraulic plant.....					
Old plant.....		573.62			
Total plant.....	21,842.86	25,211.45	5,591.51	20,803.59	84,334.93
Bank and cash balance.....	8,225.97	3,553.58	1,738.67	12.14	
Securities and investments.....		123.35	1,000.00	2,000.00	
Accounts receivable.....	638.30	812.39	307.86	984.50	13,993.72
Inventories.....					6,897.85
Sinking fund on local debentures....					
Equity in H-E.P.C. systems.....	5,998.61	4,460.92	1,763.11	8,180.44	33,041.35
Other assets.....					
Total assets.....	36,705.74	34,161.69	10,401.15	31,980.67	138,267.85
Deficit.....					
Total.....	36,705.74	34,161.69	10,401.15	31,980.67	138,267.85
LIABILITIES					
Debenture balance.....		3,365.18		1,269.07	3,150.66
Accounts payable.....	602.71	70.29			
Bank overdraft.....					505.82
Other liabilities.....	321.00	80.00	5.00	80.00	743.42
Total liabilities.....	923.71	3,515.47	5.00	1,349.07	4,399.90
RESERVES					
For equity in H-E.P.C. systems....	5,998.61	4,460.92	1,763.11	8,180.44	33,041.35
For depreciation.....	1,387.12	4,133.18	1,915.37	5,850.02	8,592.66
Other reserves.....			81.02	200.00	2,923.87
Total reserves.....	7,385.73	8,594.10	3,759.50	14,230.46	44,557.88
SURPLUS					
Debentures paid.....	14,000.00	14,300.93	6,000.00	14,730.93	66,849.34
Local sinking fund.....					
Operating surplus.....	14,396.30	7,751.19	636.65	1,670.21	22,460.73
Total surplus.....	28,396.30	22,052.12	6,636.65	16,401.14	89,310.07
Total liabilities, reserves and surplus..	36,705.74	34,161.69	10,401.15	31,980.67	138,267.85
Percentage of net debt to total assets..	3.0	11.8	0.0	5.7	4.2

“A”—Continued

Hydro Municipalities as at December 31, 1938

Newcastle 690	Norwood 716	Omemeë 598	Oshawa 24,844	Ottawa 142,852	Perth 4,183	Peterborough 23,450
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
.....	457.53	360.32	60,885.20	484,239.99	5,149.34	78,198.90
14,042.98	23,334.51	11,788.08	1,468.29	834,864.82	5,779.83	115,957.54
.....	.....	.....	220,261.92	814,287.73	47,446.36	270,381.91
.....	.....	.....	.....	186,538.09	.....	.....
3,971.26	3,879.18	3,611.45	61,539.75	357,709.55	24,521.05	111,423.18
3,490.02	4,822.00	2,631.01	109,057.59	277,407.02	22,668.47	104,525.67
688.22	1,886.92	737.46	16,504.76	123,909.77	4,621.67	58,692.34
.....
727.29	4,050.80	1,575.92	34,393.40	39,512.18	6,402.48	87,748.88
.....
.....	2,447.51	.....	8,831.65	.....	23,361.94	29,771.74
22,919.77	40,878.45	20,704.24	512,942.56	3,118,469.15	139,951.14	856,700.16
1,647.73	1,879.99	6,200.13	23,286.66	100,283.29	15,791.42	270.00
.....	13,000.00	.....	.....	170,000.00	50,135.49	.....
93.48	1,675.00	41.40	55,727.91	87,376.45	5,808.86	32,558.44
.....	.....	.....	12,071.58	27,809.39	8,422.81	6,546.27
.....	.....	.....	.....	473,304.07	.....	351,899.48
720.60	4,895.29	.....	415,387.59	149,442.15	58,508.56	245,063.64
.....	368.34	.....	56.86	.....	.....	.....
25,381.58	62,697.07	26,945.77	1,019,473.16	4,126,684.50	278,618.28	1,493,037.99
.....
25,381.58	62,697.07	26,945.77	1,019,473.16	4,126,684.50	278,618.28	1,493,037.99
11,057.97	21,629.11	245.43	138,416.95	554,749.43	42,219.09	527,920.00
547.84	441.86	.....	39,431.05	37,674.49	415.99	49,018.19
.....	.....	.....	.....	.....	.....	12,577.94
.....	368.34	129.48	23,578.00	1,530.20	2,646.34	110.00
11,605.81	22,439.31	374.91	201,426.00	593,954.12	45,281.42	589,626.13
720.60	4,895.29	.....	415,387.59	149,442.15	58,508.56	245,063.64
8,083.64	12,929.20	8,917.31	74,672.13	1,225,938.05	51,340.20	120,893.38
.....	.....	.....	17,024.60	196,927.30	396.70	1,221.69
8,804.24	17,824.49	8,917.31	507,084.32	1,572,307.50	110,245.46	367,178.71
2,942.03	15,470.89	11,754.57	171,583.05	425,250.57	66,180.91	.....
.....	.....	.....	.....	473,304.07	.....	351,899.48
2,029.50	6,962.38	5,898.98	139,379.79	1,061,868.24	56,910.49	184,333.67
4,971.53	22,433.27	17,653.55	310,962.84	1,960,422.88	123,091.40	536,233.15
25,381.58	62,697.07	26,945.77	1,019,473.16	4,126,684.50	278,618.28	1,493,037.99
47.1	38.4	1.4	33.3	3.4	20.6	26.5

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality.....	Pictou	Port Hope	Prescott	Richmond	Russell
Population.....	3,410	4,577	2,850	419	P.V.
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....	10,897.49	9,119.01	2,761.54		
Substation equipment.....	2,004.66				
Distribution system—overhead.....	38,958.55	53,273.61	40,094.88	6,686.64	7,872.06
Distribution system—underground.....					
Line transformers.....	12,597.28	15,974.45	14,685.16	1,146.53	1,382.48
Meters.....	17,508.61	23,328.22	19,761.64	1,376.33	1,751.61
Street light equipment, regular.....	7,202.86	2,977.26	2,116.94	173.98	492.87
Street light equipment, ornamental.....					
Miscellaneous construction expense.....	3,811.58	2,107.61	1,268.27	642.54	1,300.04
Steam or hydraulic plant.....					
Old plant.....					
Total plant.....	92,981.03	106,780.16	80,688.43	10,026.02	12,799.06
Bank and cash balance.....	4,134.36	1,084.14	4,931.04	744.66	1,674.08
Securities and investments.....	14,000.00	22,000.00	3,000.00		2,500.00
Accounts receivable.....	4,600.39	4,338.46	5,781.26	533.01	1,375.93
Inventories.....	7,318.31	2,357.12	440.85		
Sinking fund on local debentures.....					
Equity in H-E.P.C. systems.....	42,540.96	42,894.67	41,124.86	2,233.48	4,715.82
Other assets.....	2,590.31				
Total assets.....	168,165.36	179,454.55	135,966.44	13,537.17	23,064.89
Deficit.....					
Total.....	168,165.36	179,454.55	135,966.44	13,537.17	23,064.89
LIABILITIES					
Debenture balance.....				4,171.13	4,755.47
Accounts payable.....	4,024.46	64.25	2,236.15		97.65
Bank overdraft.....					
Other liabilities.....	2,590.31	4,490.67	291.75	90.00	
Total liabilities.....	6,614.77	4,554.92	2,527.90	4,261.13	4,853.12
RESERVES					
For equity in H-E.P.C. systems.....	42,540.96	42,894.67	41,124.86	2,233.48	4,715.82
For depreciation.....	14,943.37	14,682.47	42,246.46	1,684.24	2,745.84
Other reserves.....	1,042.81			52.84	
Total reserves.....	58,527.14	57,577.14	83,371.32	3,970.56	7,461.66
SURPLUS					
Debentures paid.....	5,730.32	79,000.00	12,170.99	2,328.87	5,244.53
Local sinking fund.....					
Operating surplus.....	97,293.13	38,322.49	37,896.23	2,976.61	5,505.58
Total surplus.....	103,023.45	117,322.49	50,067.22	5,305.48	10,750.11
Total liabilities, reserves and surplus.....	168,165.36	179,454.55	135,966.44	13,537.17	23,064.89
Percentage of net debt to total assets.....	3.3	3.3	2.7	37.7	26.4

“A”—Continued

Hydro Municipalities as at December 31, 1938

Smiths Falls 7,626	Stirling 938	Trenton 6,480	Tweed 1,256	Wark- worth P.V.	Wellington 907	Westport 710	Whitby 3,706
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
19,528.85	8,410.00	5,114.41			200.00		6,619.20
4,745.66	7,042.12	28,745.58			499.80		34,493.60
88,621.56	6,717.38	105,572.07	13,068.78	5,620.72	14,804.70	7,319.32	52,818.65
33,016.85	4,362.05	23,707.86	3,838.76	741.09	3,945.20	1,015.48	12,155.45
35,439.88	5,150.14	30,376.42	5,263.33	1,916.80	5,705.29	1,453.70	18,107.21
9,508.35	3,010.76	13,828.68	1,442.34	338.08	1,326.88	636.84	4,689.77
15,181.48	482.52	7,328.46	922.19	609.19	826.70	1,314.86	8,668.65
37,286.49				3,618.02	2,477.92	1,713.00	1,340.13
21,248.48							
264,577.60	35,174.97	214,673.48	24,535.40	12,843.90	29,786.49	13,453.20	138,892.66
1,372.14	8,291.49	4,468.16		945.09	722.37	1,696.20	10,167.91
48,000.00	2,689.71			2,500.00	5,000.00	2,500.00	5,000.00
5,847.53	959.50	3,873.33	2,955.05	160.00	503.55	818.99	8,290.96
965.76	984.58	6,428.37	2,038.26				244.43
85,454.09	6,958.53	57,270.55	7,184.38	3,126.30	8,214.32	3,522.94	40,993.17
406,217.12	55,058.78	286,713.89	36,713.09	19,575.29	44,226.73	21,991.33	203,589.13
406,217.12	55,058.78	286,713.89	36,713.09	19,575.29	44,226.73	21,991.33	203,589.13
7,589.58		47,921.48	8,477.92	8,076.00	7,187.46	10,708.83	23,701.25
			1,438.87				1,293.56
174.03	291.13	4,106.56	340.19	4.00	56.25	40.00	1,222.99
7,763.61	291.13	52,028.04	10,256.98	8,080.00	7,243.71	10,748.83	26,217.80
85,454.09	6,958.53	57,270.55	7,184.38	3,126.30	8,214.32	3,522.94	40,993.17
84,053.50	6,192.96	28,175.45	2,535.35	2,339.77	8,914.94	1,365.56	29,910.72
2,339.91			126.33				
171,847.50	13,151.49	85,446.00	9,846.06	5,466.07	17,129.26	4,888.50	70,903.89
190,035.42	10,000.00	117,078.52	10,522.08	2,924.00	9,812.54	4,291.17	52,911.25
36,570.59	31,616.16	32,161.33	6,087.97	3,105.22	10,041.22	2,062.83	53,556.19
226,606.01	41,616.16	149,239.85	16,610.05	6,029.22	19,853.76	6,354.00	106,467.44
406,217.12	55,058.78	286,713.89	36,713.09	19,575.29	44,226.73	21,991.33	203,589.13
2.4	0.6	22.7	34.7	49.1	20.1	58.2	16.1

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM—Concluded

THUNDER BAY

Municipality.....	Williams- burg P.V.	Winchester	EASTERN ONTARIO SYSTEM SUMMARY	Fort William
Population.....		1,041		24,020
ASSETS	\$ c.	\$ c.	\$ c.	\$ c.
Lands and buildings.....		299.85	1,086,202.39	48,940.29
Substation equipment.....			1,371,628.69	142,732.44
Distribution system—overhead....	3,431.14	10,010.82	2,826,102.08	168,182.51
Distribution system—underground..			372,859.27	
Line Transformers.....	1,978.92	3,371.15	986,292.19	73,454.25
Meters.....	2,391.10	5,384.01	1,119,786.83	72,812.65
Street light equipment, regular....	174.61	719.87	445,822.39	44,901.53
Street light equipment, ornamental..				
Miscellaneous construction expense.	460.71	556.98	353,669.16	10,907.95
Steam or hydraulic plant.....			101,923.15	
Old plant.....		1,100.00	125,698.88	293,762.46
Total plant.....	8,436.48	21,442.68	8,789,985.03	855,694.08
Bank and cash balance.....	3,106.70	3,172.87	306,707.76	1,242.11
Securities and investments.....	16,000.00	7,000.00	733,105.60	86,500.00
Accounts receivable.....	393.18	478.45	383,325.84	49,516.10
Inventories.....			127,922.93	10,660.37
Sinking fund on local debentures..			846,140.64	115,239.96
Equity in H-E.P.C. systems.....	5,312.30	16,916.99	1,956,360.34	538,784.70
Other assets.....			37,270.58	
Total assets.....	33,248.66	49,010.99	13,180,818.72	1,657,637.32
Deficit.....			146.70	
Total.....	33,248.66	49,010.99	13,180,965.42	1,657,637.32
LIABILITIES				
Debenture balance.....		3,804.28	1,839,792.13	300,000.00
Accounts payable.....		35.76	182,254.30	33,596.19
Bank overdraft.....			19,626.67	8,995.91
Other liabilities.....	414.87	10.00	80,168.11	23,519.81
Total liabilities.....	414.87	3,850.04	2,121,841.21	366,111.91
RESERVES				
For equity in H-E.P.C. systems....	5,312.30	16,916.99	1,956,360.34	538,784.70
For depreciation.....	2,932.72	8,516.09	2,338,977.23	131,533.79
Other reserves.....	258.04		387,657.07	21,987.43
Total reserves.....	8,503.06	25,433.08	4,682,994.64	692,305.92
SURPLUS				
Debentures paid.....	2,750.00	6,845.72	2,304,147.42	367,650.00
Local sinking fund.....			846,140.64	115,239.96
Operating surplus.....	21,580.73	12,882.15	3,225,841.51	116,329.53
Total surplus.....	24,330.73	19,727.87	6,376,129.57	599,219.49
Total liabilities, reserves and surplus..	33,248.66	49,010.99	13,180,965.42	1,657,637.32
Percentage of net debt to total assets..	1.5	12.0	12.3	25.0

“A”—Concluded

Hydro Municipalities as at December 31, 1938

SYSTEM		NORTHERN ONTARIO PROPERTIES— SUDBURY DISTRICT				
Nipigon Twp.	Port Arthur 20,302	THUNDER BAY SYSTEM SUMMARY	Capreol 1,730	Sudbury 26,315	SUDBURY DISTRICT SUMMARY	ALL SYSTEMS GRAND SUMMARY
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
215.03	432,812.77	481,968.09	450.00	26,000.00	26,450.00	10,894,019.12
.....	323,945.76	466,678.20	9,527.32	63,302.02	72,829.34	23,614,597.80
16,050.74	479,012.81	663,246.06	12,443.43	301,897.08	314,340.51	23,371,092.61
.....	.....	.....	.....	.....	.....	6,134,283.64
3,773.80	79,985.45	157,213.50	3,633.65	76,489.82	80,123.47	10,494,789.40
3,359.80	93,863.95	170,036.40	4,791.49	93,476.64	98,268.13	9,539,413.66
1,497.05	79,562.10	125,960.68	1,004.76	70,763.03	71,767.79	2,697,047.84
.....	.....	.....	.....	.....	.....	1,516,059.81
122.43	32,542.61	43,572.99	869.21	10,931.42	11,800.63	4,444,880.40
.....	324,027.37	324,027.37	.....	.....	.....	497,974.74
.....	.....	293,762.46	.....	.....	.....	4,897,097.67
25,018.85	1,845,752.82	2,726,465.75	32,719.86	642,860.01	675,579.87	98,101,256.69
634.91	25,330.92	27,207.94	379.35	61,350.54	61,729.89	3,043,609.87
732.02	730,044.69	817,276.71	.....	56,000.00	56,000.00	4,832,322.57
1,697.08	49,390.82	100,604.00	687.45	16,857.85	17,545.30	4,106,655.16
.....	18,034.22	28,694.59	.....	9,241.25	9,241.25	1,393,158.18
.....	74,272.41	189,512.37	.....	.....	.....	10,397,958.20
4,284.37	1,787,337.70	2,330,406.77	.....	.....	.....	44,254,118.64
.....	664.89	664.89	.....	.....	.....	178,534.60
32,367.23	4,530,828.47	6,220,833.02	33,786.66	786,309.65	820,096.31	166,307,613.91
.....	.....	.....	.....	.....	.....	20,050.70
32,367.23	4,530,828.47	6,220,833.02	33,786.66	786,309.65	820,096.31	166,327,664.61
4,287.13	85,080.89	389,368.02	1,918.13	135,800.14	137,718.27	29,987,512.34
.....	84,712.48	118,308.67	2,896.65	31,047.95	33,944.60	3,334,802.82
.....	.....	8,995.91	.....	.....	.....	108,753.61
.....	.....	23,519.81	185.00	28,737.60	28,922.60	3,120,619.84
4,287.13	169,793.37	540,192.41	4,999.78	195,585.69	200,585.47	36,551,688.61
4,284.37	1,787,337.70	2,330,406.77	.....	.....	.....	44,254,118.64
3,741.90	596,286.17	731,561.86	2,487.00	39,742.00	42,229.00	22,583,476.69
.....	82,399.58	104,387.01	118.48	32,629.18	32,747.66	2,814,785.08
8,026.27	2,466,023.45	3,166,355.64	2,605.48	72,371.18	74,976.66	69,652,380.41
5,712.87	557,019.11	930,381.98	17,081.87	331,538.39	348,620.26	30,890,189.93
.....	74,272.41	189,512.37	.....	.....	.....	10,397,958.20
14,340.96	1,263,720.13	1,394,390.62	9,099.53	186,814.39	195,913.92	18,835,447.46
20,053.83	1,895,011.65	2,514,284.97	26,181.40	518,352.78	544,534.18	60,123,595.59
32,367.23	4,530,828.47	6,220,833.02	33,786.66	786,309.65	820,096.31	166,327,664.61
15.3	3.6	9.5	14.8	24.9	24.5	22.4

STATEMENT

Detailed Operating Reports of Electrical Departments of

**NIAGARA
SYSTEM**

Municipality.....	Acton	Agincourt	Ailsa Craig 472	Alvinston	Amherst- burg 2,869
Population.....	1,916	P.V.	472	650	2,869
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	10,382.62	4,722.01	2,407.54	3,859.05	20,822.98
Commercial light service.....	4,373.32	1,243.66	1,396.55	2,571.38	6,828.31
Commercial power service.....	12,866.07	1,207.60	1,045.96	193.07	5,667.01
Municipal power.....	639.41			367.29	
Street lighting.....	1,971.81	744.00	668.00	1,854.00	2,350.10
Merchandise.....					
Miscellaneous.....	633.70	284.18	306.20	216.75	319.40
Total earnings.....	30,866.93	8,201.45	5,824.25	9,061.54	35,987.80
EXPENSES					
Power purchased.....	22,276.23	5,545.73	4,200.47	5,483.44	22,867.56
Substation operation.....					
Substation maintenance.....					
Distribution system, operation and maintenance.....	2,614.56	254.30	74.13	107.88	1,267.46
Line transformer maintenance.....	75.10	54.34		16.15	33.24
Meter maintenance.....	276.77	52.53	0.82	21.62	12.11
Consumers' premises expenses.....	286.02	137.92			1,666.55
Street lighting, operation and main- tenance.....	478.26	48.61	22.60	35.40	699.99
Promotion of business.....	174.79				
Billing and collecting.....	638.33	361.85	255.67	392.41	2,001.39
General office, salaries and expenses...	461.67	128.88	69.65	90.97	1,477.34
Undistributed expenses.....	89.97		5.53	10.13	133.63
Truck operation and maintenance....	238.13				240.40
Interest.....		51.31		175.86	898.64
Sinking fund and principal payments on debentures.....		775.15			1,705.54
Depreciation.....	1,447.00	414.00	499.00	721.00	2,311.00
Other reserves.....					
Total operating costs and fixed charges.....	29,056.83	7,824.62	5,127.87	7,054.86	35,314.85
Net surplus.....	1,810.10	376.83	696.38	2,006.68	672.95
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	499	151	139	165	642
Commercial light service.....	91	26	40	53	125
Power service.....	15	3	2	2	15
Total.....	605	180	181	220	782

“B”

Hydro Municipalities for Year Ended December 31, 1938

Ancaster Twp.	Arkona 406	Aylmer 1,998	Ayr 755	Baden P.V.	Beachville P.V.	Beamsville 1,121
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
10,355.94	2,703.98	10,941.81	5,252.23	3,632.28	3,004.61	9,669.58
2,681.24	1,624.29	8,780.57	1,659.80	2,039.47	575.87	4,811.90
522.43	147.93	5,739.49	278.60	5,454.92	10,699.82	2,874.35
300.17		1,180.51				
1,054.00	1,072.00	2,525.83	1,028.00	711.00	517.00	1,896.77
	4.28	1,294.05	22.58	26.44	195.33	133.66
14,913.78	5,552.48	30,462.26	8,241.21	11,864.11	14,992.63	19,386.26
8,833.84	3,113.79	18,101.56	5,232.34	8,961.53	12,570.38	10,422.80
1,140.09	202.54	2,210.88	589.99	275.88	198.98	311.40
9.55		287.69	14.00			30.00
267.13	52.31	311.57	50.20	77.55	57.80	159.80
196.05	8.00	47.12	109.22	202.58	242.90	130.97
151.14	96.67	206.20	170.87	107.33	72.91	235.92
		97.53	21.60			48.00
864.90	179.01	882.23	384.25	275.90	354.44	663.70
620.97	75.61	283.71	47.07	182.69	95.16	732.72
25.07	6.55	166.76	18.26	4.83		3.09
		144.53				
581.93	405.34	832.18	269.24	57.67	72.79	1,500.00
389.55	736.09	1,675.74	446.25	267.59	285.00	1,259.32
1,031.00	379.00	1,651.00	653.00	500.00	725.00	1,000.00
						1,099.88
14,111.22	5,254.91	26,898.70	8,006.29	10,913.55	14,675.36	17,597.60
802.56	297.57	3,563.56	234.92	950.56	317.27	1,788.66
310	102	685	225	148	152	337
36	35	146	40	39	21	70
7	2	12	4	2	4	8
353	139	843	269	189	177	415

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA
SYSTEM—Continued

Municipality.....	Belle River	Blenheim	Blyth	Bolton	Bothwell
Population.....	810	1,775	652	567	643
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	4,392.24	8,525.46	3,490.29	4,174.46	2,617.42
Commercial light service.....	2,237.47	7,053.47	1,846.55	1,361.37	1,458.60
Commercial power service.....	74.56	2,866.50	410.35	1,665.29	579.39
Municipal power.....	1,006.11	1,507.99	.....	133.58	143.20
Street lighting.....	994.50	2,535.00	1,580.00	1,063.52	1,318.65
Merchandise.....	.....	127.54	.....	.....	5.39
Miscellaneous.....	40.83	248.86	11.78	92.80	606.63
Total earnings.....	8,745.71	22,864.82	7,338.97	8,491.02	6,729.28
EXPENSES					
Power purchased.....	4,858.48	14,534.32	4,382.31	5,107.07	4,574.76
Substation operation.....	.....	.....	.....	.....	.....
Substation maintenance.....	.....	.....	.....	.....	.....
Distribution system, operation and maintenance.....	.....	.....	.....	.....	.....
Line transformer maintenance.....	483.62	1,185.98	273.00	485.15	310.07
Meter Maintenance.....	265.32	132.45	.....	.....	.....
Consumers' premises expenses.....	338.94	380.74	33.69	3.75	72.46
Street lighting, operation and maintenance.....	.....	364.14	29.71	280.12	35.43
Promotion of business.....	137.08	651.50	108.36	94.76	94.47
Billing and collecting.....	22.21	.....	.....	.....	.....
General office, salaries and expenses...	508.23	1,062.15	258.60	.....	202.65
Undistributed expenses.....	193.10	1,420.50	114.57	586.96	77.29
Truck operation and maintenance.....	103.43	128.37	25.97	.....	1.72
Interest.....	.....	389.00	247.29	184.77	135.35
Sinking fund and principal payments on debentures.....	.....	638.12	1,035.44	439.50	227.90
Depreciation.....	840.00	1,738.00	537.00	657.00	610.00
Other reserves.....	.....	.....	.....	.....	.....
Total operating costs and fixed charges.....	7,750.41	22,625.27	7,045.94	7,839.08	6,342.10
Net surplus.....	995.30	239.55	293.03	651.94	387.18
Net loss.....	.....	.....	.....	.....	.....
NUMBER OF CONSUMERS					
Domestic service.....	238	536	172	172	182
Commercial light service.....	50	131	51	31	54
Power service.....	2	11	3	10	7
Total.....	290	678	226	213	243

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Brampton	Brantford	Brantford Twp.	Bridgeport	Brigden	Brussels	Burford
5,638	31,282		P.V.	P.V.	780	P.V.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
39,357.55	166,887.81	21,179.00	4,639.47	2,349.89	4,573.10	4,187.77
18,648.23	74,787.61	4,383.56	1,009.02	2,095.77	2,723.30	1,095.51
17,556.33	196,802.57	3,063.71	235.21	561.41	737.02	1,490.51
1,503.36	21,025.07					
5,667.08	33,466.45	4,103.00	723.00	800.00	1,296.00	670.08
884.91	5,709.56	884.24		155.90	202.01	280.71
83,617.46	498,679.07	33,613.51	6,606.70	5,962.97	9,531.43	7,724.58
68,929.42	347,380.82	18,245.81	3,536.22	3,816.31	5,431.57	5,065.12
72.89	7,797.51					
1,634.86	12,783.22	1,438.66	117.84	269.07	371.81	67.02
861.02	1,012.24	45.21	11.70			
413.10	5,010.48	139.60	36.70	7.25	42.61	45.01
607.74	5,673.06	407.81	59.53		15.00	98.40
696.73	4,471.59	968.15	112.65	112.92	97.47	77.06
2,079.48	79.42		53.73			
1,645.65	11,742.45	1,777.27	330.26	281.96		451.19
165.49	9,940.43	1,438.78	33.17	320.73	657.74	121.08
179.76	3,906.23	10.67	5.00	9.66		6.70
311.65	1,867.02					
	5,237.60	422.00	459.18		482.87	
2,271.50	15,750.00	2,056.98	738.93		1,274.47	
5,384.00	31,586.00	2,952.00	574.00	424.00	697.00	550.00
	13,000.00			25.03		
85,253.29	479,962.57	29,902.94	6,068.91	5,266.93	9,070.54	6,481.58
	18,716.50	3,710.57	537.79	696.04	460.89	1,243.00
1,635.83						
1,446	7,698	959	154	123	236	195
248	1,142	53	23	41	64	32
54	201	7	3	5	2	2
1,748	9,041	1,019	180	169	302	229

STATEMENT
Detailed Operating Reports of Electrical Departments of

NIAGARA
SYSTEM—Continued

Municipality.....	Burgess- ville P.V.	Caledonia	Campbell- ville P.V.	Cayuga	Chatham
Population.....		1,410		664	16,153
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	1,446.53	6,134.95	1,517.52	3,799.55	87,034.29
Commercial light service.....	639.19	4,817.21	587.51	3,912.00	77,608.46
Commercial power service.....	319.57	1,716.23	.....	1,020.75	67,498.18
Municipal power.....	.....	.....	.....	.....	6,196.33
Street lighting.....	312.00	1,796.75	480.00	1,474.50	19,240.76
Merchandise.....	.....	.....	.....	.....	1,001.22
Miscellaneous.....	.....	87.66	60.22	98.96	3,194.54
Total earnings.....	2,717.29	14,552.80	2,645.25	10,305.76	261,773.78
EXPENSES					
Power purchased.....	1,849.49	8,295.67	1,547.56	4,686.26	137,220.49
Substation operation.....	.....	.....	.....	.....	8,072.21
Substation maintenance.....	.....	.....	.....	.....	2,536.07
Distribution system, operation and maintenance.....	123.96	1,148.89	64.50	497.08	7,006.47
Line transformer maintenance.....	3.00	217.84	.....	1.53	1,331.40
Meter maintenance.....	116.57	167.41	.....	10.00	6,186.82
Consumers' premises expenses.....	.....	.....	.....	.....	6,044.17
Street lighting, operation and main- tenance.....	17.28	353.16	12.00	184.23	5,363.40
Promotion of business.....	.....	105.06	.....	17.21	3,847.75
Billing and collecting.....	.....	791.95	.....	540.72	10,015.20
General office, salaries and expenses...	128.93	138.14	92.83	478.50	13,777.16
Undistributed expenses.....	.....	85.79	.....	70.05	3,587.84
Truck operation and maintenance.....	.....	151.95	.....	.....	3,036.28
Interest.....	6.09	40.01	143.96	523.11	9,875.83
Sinking fund and principal payments on debentures.....	.....	321.71	344.28	1,150.48	19,071.86
Depreciation.....	338.00	782.00	139.00	663.00	19,113.00
Other reserves.....	.....	.....	.....	50.00	.....
Total operating costs and fixed charges.....	2,583.32	12,599.58	2,344.13	8,872.17	256,085.95
Net surplus.....	133.97	1,953.22	301.12	1,433.59	5,687.83
Net loss.....	.....	.....	.....	.....	.....
NUMBER OF CONSUMERS					
Domestic service.....	54	388	48	157	4,059
Commercial light service.....	16	90	11	62	769
Power service.....	2	6	.....	8	105
Total.....	72	484	59	227	4,933

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Chippawa 1,186	Clifford 446	Clinton 1,901	Comber P.V.	Cottam P.V.	Courtright 334	Dashwood P.V.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
7,419.63	2,501.18	12,050.06	2,073.10	2,410.98	1,830.83	1,531.16
1,960.26	1,976.29	7,493.62	1,950.82	1,387.40	1,073.78	1,074.37
40.34	464.11	3,456.73	2,226.67	277.87		708.03
1,100.40		996.14			806.77	
1,702.42	901.31	2,674.96	672.00	480.00	774.00	451.00
		271.81				
138.78	25.90	777.57	186.60	138.07	2.70	94.65
12,361.83	5,868.79	27,720.89	7,109.19	4,694.32	4,488.08	3,859.21
5,987.62	3,653.12	16,856.23	4,941.57	2,528.04	2,448.10	2,655.39
		100.00				
1,374.77	92.09	1,141.67	330.56	306.18	99.58	134.10
17.01		26.59		98.00		
241.90	39.82	274.45	69.09	159.18		141.72
354.34	28.00	332.52				
444.93	43.78	367.27	68.15	66.30	55.53	37.16
48.40						
535.71	304.94	797.79	205.49		171.51	139.68
603.87	68.54	1,131.93	471.20	443.97	5.72	42.36
96.47	12.33	70.40	19.14		6.31	1.08
		53.48				
187.05	328.91	2,062.50	37.06	287.98	756.55	90.68
1,024.91	221.53	972.49	193.98	465.15	85.74	144.50
860.00	343.00	2,322.00	531.00	434.00	249.00	263.00
11,776.98	5,136.06	26,509.32	6,867.24	4,788.80	3,878.04	3,649.67
584.85	732.73	1,211.57	241.95		610.04	209.54
				94.48		
336	121	549	102	111	74	79
49	40	151	45	30	24	28
2	1	16	3	1	1	2
387	162	716	150	142	99	109

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Delaware	Delhi*	Dorchester	Drayton	Dresden
Population.....	P.V.	1,677	P.V.	551	1,477
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	1,695.43	4,320.51	2,412.24	3,332.44	6,465.69
Commercial light service.....	687.75	5,237.87	909.31	1,963.02	5,576.09
Commercial power service.....		2,377.29	565.38	1,192.12	2,907.37
Municipal power.....					406.50
Street lighting.....	264.00	1,228.75	714.84	960.00	1,979.86
Merchandise.....					
Miscellaneous.....	127.64	152.52	113.48	222.81	1,485.33
Total earnings.....	2,774.82	13,316.94	4,715.25	7,670.39	18,820.84
EXPENSES					
Power purchased.....	1,815.94	6,833.36	3,199.37	5,148.81	11,856.34
Substation operation.....					
Substation maintenance.....					
Distribution system, operation and maintenance.....	15.40	1,099.26	39.19	177.78	2,023.80
Line transformer maintenance.....		23.37		92.25	
Meter maintenance.....		112.11	13.90	22.75	394.91
Consumers' premises expenses.....		20.24	30.33	63.41	
Street lighting, operation and maintenance.....	2.70	131.17	26.41	109.94	278.99
Promotion of business.....			40.00		
Billing and collecting.....	147.50	459.89	188.85		880.95
General office, salaries and expenses...	34.94	273.91	27.28	365.28	917.46
Undistributed expenses.....		240.01			125.93
Truck operation and maintenance.....		197.73			239.43
Interest.....	75.25	335.54	90.03	304.77	
Sinking fund and principal payments on debentures.....	184.96		189.69	385.39	
Depreciation.....	194.00		422.00	625.00	937.00
Other reserves.....					
Total operating costs and fixed charges.....	2,470.69	9,726.59	4,267.05	7,295.38	17,654.81
Net surplus.....	304.13	3,590.35	448.20	375.01	1,166.03
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	56	464	146	163	415
Commercial light service.....	17	131	28	63	119
Power service.....		4	2	5	10
Total.....	73	599	176	231	544

*7 months' operation

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Drumbo P.V.	Dublin P.V.	Dundas 4,956	Dunnville 4,004	Dutton 807	East York Twp.	Elmira 2,069
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
2,175.81	1,486.11	21,466.72	13,531.56	3,079.23	182,025.90	15,075.11
851.83	784.17	11,821.21	14,068.54	2,383.11	28,592.90	7,208.93
593.96	1,187.27	22,379.82	9,790.14	2,871.67	31,321.12	5,245.96
.....	.....	359.76	2,703.94	.....	5,391.30	853.36
513.50	650.00	5,557.00	3,712.89	1,024.44	19,924.57	1,843.00
.....	.....	.....	.....	8.65	.....	.....
78.76	1.52	596.09	1,360.64	229.08	474.50	854.45
4,213.86	4,109.07	62,180.60	45,167.71	9,596.18	267,730.29	31,080.81
.....
2,626.65	2,441.46	40,209.31	24,875.32	6,919.48	169,133.03	19,410.68
.....	.....	392.53	.....	.....	.....	.....
.....	.....	.....	406.39	.....	.....	.....
203.03	105.89	3,610.59	2,709.15	370.57	8,115.93	1,333.96
.....	.....	121.24	224.73	2.45	886.14	66.67
0.78	6.95	885.10	430.66	105.07	4,660.01	188.20
.....	.....	132.93	.....	76.66	4,136.84	646.39
.....
94.09	87.28	589.71	336.85	196.40	2,432.17	147.10
.....	.....	.....	21.61	27.40	.....	200.44
223.50	113.02	1,296.56	1,080.53	351.30	14,410.23	726.97
92.34	85.59	2,023.73	1,317.22	145.50	12,626.52	617.99
1.04	5.95	457.35	151.77	13.98	1,579.32	316.48
.....	.....	857.07	282.62	.....	.....	333.14
84.69	.....	874.91	2,260.33	.....	11,374.88	948.49
.....
208.04	.....	2,696.70	3,300.60	.....	18,141.55	2,064.69
336.00	334.00	4,790.00	3,745.00	656.00	14,983.00	2,344.00
.....
.....
3,870.16	3,180.14	58,937.73	41,142.78	8,864.81	262,479.62	29,345.20
343.70	928.93	3,242.87	4,024.93	731.37	5,250.67	1,735.61
.....
.....
90	54	1,256	904	220	9,503	518
28	22	189	220	67	414	122
1	2	36	25	9	42	21
119	78	1,481	1,149	296	9,959	661

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Elora	Embro	Erieau	Erie Beach	Essex
Population.....	1,149	428	273	21	1,833
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	7,161.53	2,851.78	3,676.99	1,827.80	8,084.98
Commercial light service.....	3,988.13	1,461.06	1,249.23	411.22	6,546.59
Commercial power service.....	2,737.11	1,063.83	401.00		5,794.38
Municipal power.....					1,818.70
Street lighting.....	1,651.60	669.00	432.00		2,115.35
Merchandise.....			9.00		
Miscellaneous.....	413.96	113.59	31.06	6.48	557.14
Total earnings.....	15,952.33	6,159.26	5,799.28	2,245.50	24,917.14
EXPENSES					
Power purchased.....	9,809.43	4,101.83	3,496.75	1,149.69	13,816.29
Substation operation.....					
Substation maintenance.....					
Distribution system, operation and maintenance.....	1,010.46	210.80	152.68	79.15	309.70
Line transformer maintenance.....	33.60		65.47	15.13	5.30
Meter Maintenance.....	150.80	43.84	143.35	23.89	117.39
Consumers' premises expenses.....	68.86	88.30	202.47	6.24	87.80
Street lighting, operation and maintenance.....	230.55	114.98	49.44		288.79
Promotion of business.....	150.77	40.00			269.69
Billing and collecting.....	719.65	271.59	534.88	212.35	1,050.16
General office, salaries and expenses...	987.99	114.23	239.55	36.61	1,529.69
Undistributed expenses.....	172.30		1.54	0.53	182.35
Truck operation and maintenance....	265.71				243.79
Interest.....	41.69	72.79	195.95	117.43	925.63
Sinking fund and principal payments on debentures.....	675.73	581.96	434.88	170.27	623.03
Depreciation.....	1,254.00	564.00	463.00	103.00	2,097.00
Other reserves.....					102.23
Total operating costs and fixed charges.....	15,571.54	6,204.32	5,979.96	1,914.29	21,648.84
Net surplus.....	380.79			331.21	3,268.30
Net loss.....		45.06	180.68		
NUMBER OF CONSUMERS					
Domestic service.....	327	117	193	82	469
Commercial light service.....	76	42	12	3	119
Power service.....	2	1	2		19
Total.....	405	160	207	85	607

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Etobicoke Twp.	Exeter 1,652	Fergus 2,785	Fonthill 829	Forest 1,502	Forest Hill 10,208	Galt 14,410
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
135,407.05	10,841.50	16,323.75	5,133.57	11,450.46	186,013.59	88,226.40
22,008.18	5,780.80	6,612.53	1,585.21	6,068.86	21,570.01	42,124.78
20,558.22	3,024.34	12,706.00	253.16	3,848.45	2,239.14	101,440.63
4,415.27	462.49	593.71	221.82	871.08	536.47	4,586.49
14,318.74	2,734.50	2,578.62	1,163.00	2,385.50	6,218.45	16,283.92
.....	11.16	7.28	.....	280.40	.....	.....
.....	902.43	70.55	.....	820.88	2,721.61	2,403.06
196,707.46	23,757.22	38,892.44	8,356.76	25,725.63	219,299.27	255,065.28
125,438.45	14,952.58	31,914.28	3,524.37	15,798.08	161,092.66	168,545.59
.....	.....	.....	.....	.....	331.39	3,723.48
.....	.....	.....	.....	.....	.....	367.48
7,105.50	915.39	925.98	506.51	1,824.76	3,743.51	3,352.31
1,176.10	.....	346.24	.....	6.30	120.26	213.70
1,050.20	599.05	703.70	170.54	101.35	430.33	1,836.46
6,939.85	572.74	521.07	10.39	858.96	2,428.93	1,451.93
1,283.10	277.33	802.93	68.24	299.09	605.13	1,945.09
.....	.....	.....	.....	88.28	.....	1,939.72
5,914.03	816.92	813.93	465.42	952.55	4,193.59	4,262.15
4,770.26	1,656.14	765.44	121.25	1,439.85	4,815.19	4,749.82
2,092.31	27.31	181.37	.....	121.20	645.62	2,121.25
1,353.85	285.04	375.25	.....	428.18	860.41	508.25
7,202.17	193.22	720.64	637.07	384.38	12,106.19	6,312.99
12,445.25	1,225.83	1,347.93	1,327.32	998.02	11,291.90	21,838.47
13,411.00	1,734.00	1,867.00	549.00	1,636.00	8,356.00	26,018.25
.....
.....
190,182.07	23,255.55	41,285.76	7,380.11	24,937.00	211,021.11	249,186.94
6,525.39	501.67	.....	976.65	788.63	8,278.16	5,878.34
.....	.....	2,393.32	.....	.....	.....	.....
.....
4,081	459	660	227	461	2,832	3,809
217	119	111	33	120	215	501
32	11	14	4	22	20	119
4,330	589	785	264	603	3,067	4,429

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	George- town 2,325	Glencoe 810	Goderich 4,488	Granton P. V.	Guelph 21,333
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service	17,179.50	5,013.69	29,939.91	1,734.57	106,395.69
Commercial light service	7,018.92	3,606.77	16,731.86	1,060.95	54,636.47
Commercial power service	22,812.69	1,708.40	10,808.35		103,107.62
Municipal power	628.45	1,698.55	2,715.14		18,158.57
Street lighting	2,669.02	1,962.00	4,521.50	370.00	18,786.56
Merchandise		114.40	118.95		
Miscellaneous	687.81	347.22	421.36	191.51	966.59
Total earnings	50,996.39	14,451.03	65,257.07	3,357.03	302,051.50
EXPENSES					
Power purchased	39,289.37	8,709.69	41,489.51	2,638.35	218,693.34
Substation operation			1,915.06		3,900.73
Substation maintenance					
Distribution system, operation and maintenance	2,159.85	826.55	2,858.48	103.41	5,310.61
Line transformer maintenance	118.32		246.25	42.25	2,000.56
Meter maintenance	391.83	21.05	644.89	1.50	3,826.60
Consumers' premises expenses	456.46	31.40	376.57	2.50	1,544.22
Street lighting, operation and main- tenance	310.76	151.23	876.02	58.01	5,445.48
Promotion of business				51.80	1,362.20
Billing and collecting	1,619.31	322.84	1,542.06	350.43	6,555.01
General office, salaries and expenses ..	915.31	348.30	1,672.71	69.98	10,663.92
Undistributed expenses	106.02	187.88	140.84	6.00	1,105.06
Truck operation and maintenance	460.99		185.90		2,122.19
Interest	428.69	226.32	2,071.33	99.23	250.00
Sinking fund and principal payments on debentures	1,024.29	1,282.72	2,861.17	159.49	105.10
Depreciation	2,344.00	1,170.00	6,384.00	280.00	19,402.00
Other reserves		51.62			
Total operating costs and fixed charges	49,625.20	13,329.60	63,264.79	3,862.95	282,287.02
Net surplus	1,371.19	1,121.43	1,992.28		19,764.48
Net loss				505.92	
NUMBER OF CONSUMERS					
Domestic service	741	218	1,232	85	5,289
Commercial light service	130	78	241	33	789
Power service	28	6	20		132
Total	899	302	1,493	118	6,210

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Hagersville	Hamilton	Harriston	Harrow	Hensall	Hespeler	Highgate
1,307	153,527	1,266	984	680	2,810	349
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
5,481.85	825,482.68	7,077.78	8,785.03	3,865.84	14,239.95	1,623.02
5,841.13	427,981.93	4,825.10	4,689.12	2,466.46	5,403.26	864.07
9,970.67	1,586,697.73	5,179.71	2,824.56	2,975.54	34,761.48	1,011.26
.....	68,127.27	423.89	.....	35.74	823.74	30.06
2,050.00	123,718.67	1,606.50	1,332.00	1,008.00	3,112.33	567.00
.....	.....	.....	183.16	.....	.....	.....
885.72	63,540.12	170.77	29.77	356.05	1,174.06	144.14
24,229.37	3,095,548.40	19,283.75	17,843.64	10,707.63	59,514.82	4,239.55
14,168.50	2,119,084.58	11,853.44	12,362.22	6,578.44	42,788.85	2,938.46
.....	53,285.19	.....	.....	.....	429.76	.....
.....	8,315.20	.....	.....	.....	65.26	.....
2,469.07	32,781.82	1,518.56	201.70	975.06	3,272.85	147.45
101.27	7,050.82	29.34	.....	.....	.....	.....
366.84	30,580.03	170.92	219.84	200.60	253.59	21.55
.....	33,017.80	134.45	254.70	10.00	113.50	.....
444.05	16,348.91	306.66	208.70	123.07	464.87	59.15
.....	22,832.76	87.90	23.00	.....	.....	.....
774.18	64,314.25	710.72	727.57	285.50	1,043.22	300.59
588.96	51,960.66	340.12	529.60	300.48	1,344.81	152.08
42.95	22,028.93	41.61	40.62	15.26	560.65	6.37
226.24	.....	84.38	.....	.....	221.45	.....
99.06	142,414.34	366.47	193.54	232.18	1,403.53	.....
291.25	279,338.82	655.29	695.78	580.25	2,328.73	.....
1,293.00	143,748.03	1,179.00	953.00	773.00	3,025.00	406.00
.....
20,865.37	3,027,102.14	17,478.86	16,410.27	10,123.84	57,316.07	4,031.65
3,364.00	68,446.26	1,804.89	1,433.37	583.79	2,198.75	207.90
.....
356	38,779	350	280	190	735	99
112	5,152	100	77	59	100	35
14	1,250	13	5	14	28	6
482	45,181	463	362	263	863	140

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Humber- stone 2,629	Ingersoll	Jarvis	Kingsville	Kitchener
Population.....		5,177	505	2,363	32,550
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	10,264.65	30,599.78	2,655.00	13,951.86	192,841.68
Commercial light service.....	2,801.60	16,250.13	1,839.20	7,110.03	115,372.85
Commercial power service.....	4,188.25	25,788.44	3,338.91	3,463.83	263,259.52
Municipal power.....		1,356.60		1,134.51	17,866.46
Street lighting.....	1,617.50	4,727.36	858.00	2,852.99	33,584.06
Merchandise.....					
Miscellaneous.....	441.37	580.85	198.19	1,359.29	1,801.85
Total earnings.....	19,313.37	79,303.16	8,889.30	29,872.51	624,726.42
EXPENSES					
Power purchased.....	10,156.76	56,003.19	5,743.96	16,370.50	457,193.34
Substation operation.....		413.62			6,208.89
Substation maintenance.....					4,194.09
Distribution system, operation and maintenance.....	1,332.28	3,846.21	67.01	1,556.83	15,013.08
Line transformer maintenance.....	21.00	61.59		57.17	734.81
Meter maintenance.....	232.59	819.16	44.10	373.22	5,831.50
Consumers' premises expenses.....		760.39		151.76	11,532.15
Street lighting, operation and main- tenance.....	171.84	1,056.50	71.98	675.41	7,513.66
Promotion of business.....		239.24		184.67	5,373.97
Billing and collecting.....	737.38	1,495.09	526.64	1,862.39	15,032.66
General office, salaries and expenses...	267.08	3,919.74	54.93	1,146.14	10,466.03
Undistributed expenses.....	15.22	380.34	5.19	339.25	6,565.56
Truck operation and maintenance....	161.56	317.15		155.98	3,588.73
Interest.....	804.00	1,200.00	246.07	1,581.71	7,359.77
Sinking fund and principal payments on debentures.....	1,700.00		637.22	903.80	18,976.49
Depreciation.....	1,106.00	4,297.00	485.00	2,246.00	38,475.00
Other reserves.....				128.30	
Total operating costs and fixed charges.....	16,705.71	74,809.22	7,882.10	27,733.13	614,059.73
Net surplus.....	2,607.66	4,493.94	1,007.20	2,139.38	10,666.69
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	634	1,404	143	618	7,591
Commercial light service.....	62	232	44	150	1,051
Power service.....	6	47	4	16	240
Total.....	702	1,683	191	784	8,882

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Lambeth P.V.	La Salle 812	Leamington 5,446	Listowel 2,826	London 74,281	London Twp.	Long Branch 4,029
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
3,163.03	6,221.29	26,717.34	16,292.40	513,867.77	11,851.31	26,391.23
1,181.33	1,598.56	17,610.38	10,484.46	196,729.35	2,318.22	6,006.00
.....	2,223.00	20,934.96	11,935.26	344,666.11	1,590.69	1,530.50
523.63	.....	2,669.75	1,076.49	70,705.40	.....	1,022.31
734.22	630.08	5,440.42	4,513.71	55,505.78	1,125.85	4,415.09
.....	2.22	2.54	.....	4,782.98	.....	.....
75.27	86.83	1,513.65	634.30	25,470.81	292.91	.....
5,677.48	10,761.98	74,889.04	44,936.62	1,211,728.20	17,178.98	39,365.13
3,839.98	6,912.66	47,754.87	30,352.79	770,945.99	12,780.09	21,159.98
.....	.....	.....	69.22	17,147.80	.....	.....
.....	.....	.....	.....	17,274.11	.....	.....
181.34	624.02	2,455.55	1,843.43	21,068.74	483.14	2,571.78
3.08	9.00	.....	9.95	3,778.90	25.84	239.74
157.27	95.99	586.67	223.00	18,142.27	193.68	351.79
31.86	80.67	560.18	262.83	18,981.24	848.06	264.34
56.45	172.71	798.13	424.29	7,825.99	164.71	472.64
.....	.....	664.10	.....	31,047.15	.....	.....
237.00	371.51	1,911.23	889.93	28,181.18	807.08	2,129.05
59.78	431.08	3,024.09	1,795.71	41,258.93	509.67	2,413.82
1.49	60.09	688.23	126.64	17,818.83	4.42	724.70
.....	.....	530.62	188.41	5,542.58	.....	.....
.....	504.46	1,407.74	125.85	30,201.20	302.60	685.81
.....	847.86	2,783.17	658.81	71,095.22	661.84	1,954.71
426.00	1,022.00	4,015.00	3,208.00	110,688.45	934.00	2,613.00
.....	50.21	.....	.....	4,415.33	50.00	.....
4,994.25	11,182.26	67,179.58	40,178.86	1,215,413.91	17,765.13	35,581.36
683.23	.....	7,709.46	4,757.76	.....	.....	3,783.77
.....	420.28	.....	.....	3,685.71	586.15	.....
122	203	1,436	746	17,845	401	1,256
25	18	259	154	2,103	22	96
2	3	31	23	443	4	7
149	224	1,726	923	20,391	427	1,359

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Lucan	Lynden	Markham	Merlin	Merritton
Population.....	614	P.V.	1,116	P.V.	2,644
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	4,191.68	2,130.11	6,901.77	2,335.20	12,735.36
Commercial light service.....	1,822.44	737.54	3,408.16	2,056.80	2,759.69
Commercial power service.....	2,301.55	702.82	2,456.62	316.56	108,473.72
Municipal power.....			364.57		175.52
Street lighting.....	979.98	440.00	1,428.00	691.01	3,336.00
Merchandise.....					
Miscellaneous.....	347.67	28.18	401.28	468.79	263.31
Total earnings.....	9,643.32	4,038.65	14,960.40	5,868.36	127,743.60
EXPENSES					
Power purchased.....	5,947.84	2,615.88	9,717.68	2,709.86	114,364.49
Substation operation.....					317.15
Substation maintenance.....					
Distribution system, operation and maintenance.....	699.20	31.57	881.76	217.38	2,138.22
Line transformer maintenance.....	1.23		80.05		33.53
Meter Maintenance.....	8.70		60.15	235.96	837.95
Consumers' premises expenses.....	85.19		94.01	59.55	57.66
Street lighting, operation and maintenance.....	148.38		153.92	143.96	645.51
Promotion of business.....	119.13		18.00		
Billing and collecting.....	644.03		749.95	235.77	1,391.87
General office, salaries and expenses.....	329.80	188.37	271.73	206.02	1,937.63
Undistributed expenses.....	82.85	29.25		1.35	180.14
Truck operation and maintenance.....			161.84		235.45
Interest.....	157.66	107.75		278.04	1,289.99
Sinking fund and principal payments on debentures.....	330.23	201.53		898.96	1,965.24
Depreciation.....	779.00	320.00	929.00	442.00	3,335.00
Other reserves.....			50.00		
Total operating costs and fixed charges.....	9,333.24	3,494.35	13,168.09	5,428.85	128,729.83
Net surplus.....	310.08	544.30	1,792.31	439.51	
Net loss.....					986.23
NUMBER OF CONSUMERS					
Domestic service.....	178	90	297	114	690
Commercial light service.....	52	14	70	47	68
Power service.....	7	2	8	1	13
Total.....	237	106	375	162	771

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Milton 1,791	Milverton 1,006	Mimico 6,940	Mitchell 1,607	Moorefield P.V.	Mount Brydges P.V.	Newbury 279
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
12,251.22	4,796.04	53,267.68	11,595.57	1,093.25	2,773.56	1,323.57
5,568.13	3,456.91	10,512.14	5,608.65	942.00	962.24	680.94
16,400.85	2,849.51	4,173.83	3,646.91	16.20	831.76	269.44
.....	322.07	7,093.76	691.87	.....	.....	.....
1,937.52	1,033.50	7,604.21	2,547.00	350.00	672.23	705.00
565.38	.....	.....	421.38	.....	.....	.....
756.87	120.14	78.62	60.89	13.31	231.71	32.20
37,479.97	12,578.17	82,730.24	24,572.27	2,414.76	5,471.50	3,011.15
25,988.03	8,891.47	51,613.18	14,865.81	1,661.91	3,333.66	1,493.99
254.35	.....	23.75	23.69	.....	.....	.....
1,976.63	521.61	7,135.32	568.66	71.06	123.66	165.91
772.42	.....	195.43	161.29	.....	6.10	.....
510.92	21.49	918.02	444.64	28.60	32.85	4.15
784.19	120.48	1,473.72	621.75	.....	21.95	.....
460.75	80.96	1,575.50	326.00	32.40	13.78	81.56
1,018.72	641.40	2,030.07	954.46	.....	245.30	.....
1,330.91	391.85	2,181.42	1,077.21	124.66	91.47	136.70
85.67	18.41	227.01	460.97	.....	11.14	5.92
701.38	.....	544.57	274.38	.....	.....	.....
324.30	.....	3,419.66	.....	0.50	90.82	138.06
914.73	.....	6,569.02	.....	.....	199.60	500.00
2,263.00	801.00	6,253.00	3,654.00	226.00	405.00	354.00
.....	.....	375.00	.....	.....	.....	.....
37,386.00	11,488.67	84,534.67	23,432.86	2,145.13	4,575.33	2,880.29
93.97	1,089.50	.....	1,139.41	269.63	896.17	130.86
.....	.....	1,804.43	.....	.....	.....	.....
499	241	1,843	476	56	150	68
109	77	144	124	28	45	22
15	8	19	22	1	3	1
623	326	2,006	622	85	198	91

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	New Hamburg 1,441	New Toronto 7,095	Niagara Falls 18,747	Niagara-on- the-Lake 1,651	North York Twp.
Population					
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service	9,466.21	36,224.01	129,362.85	13,913.50	140,344.20
Commercial light service	4,542.10	16,284.24	59,700.86	4,364.21	22,015.66
Commercial power service	4,977.09	120,670.83	64,560.55	591.48	30,916.98
Municipal power		11,208.62	16,721.90	1,538.09	7,078.90
Street lighting	2,217.00	7,446.51	27,492.57	3,231.42	3,974.06
Merchandise	57.46			749.67	
Miscellaneous	282.88	596.41	2,078.70	322.22	1,410.41
Total earnings	21,542.74	192,430.62	299,917.43	24,710.59	205,740.21
EXPENSES					
Power purchased	13,577.48	163,420.11	169,988.28	11,747.50	105,095.91
Substation operation			11,478.91		
Substation maintenance	233.72				
Distribution system, operation and maintenance	928.60	5,257.15	6,320.13	1,849.60	10,907.17
Line transformer maintenance	6.78	221.85	521.84	30.92	324.28
Meter maintenance	293.20	2,268.03	6,663.83	85.04	1,913.74
Consumers' premises expenses	140.61	16.62	279.53	1.80	2,873.02
Street lighting, operation and main- tenance	307.72	1,142.55	4,026.98	729.57	776.73
Promotion of business				300.05	
Billing and collecting	747.24	3,067.25	8,222.68	1,475.88	5,400.55
General office, salaries and expenses ..	1,164.01	7,091.54	10,843.56	1,683.65	6,019.91
Undistributed expenses	229.38	441.08	3,500.87	91.55	1,753.01
Truck operation and maintenance	325.18	705.31	1,359.07	361.66	3,031.27
Interest	186.16	158.43	13,017.88	928.42	18,116.20
Sinking fund and principal payments on debentures	1,011.49	388.34	32,178.35	1,249.06	20,697.65
Depreciation	1,495.00	6,384.00	27,283.00	2,009.00	15,145.00
Other reserves		750.00			
Total operating costs and fixed charges	20,646.57	191,312.26	295,684.91	22,543.70	192,054.44
Net surplus	896.17	1,118.36	4,232.52	2,166.89	13,685.77
Net loss					
NUMBER OF CONSUMERS					
Domestic service	359	1,705	4,580	522	3,968
Commercial light service	104	210	712	83	299
Power service	12	31	86	8	34
Total	475	1,946	5,378	613	4,301

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Norwich 1,212	Oil Springs 470	Otterville P.V.	Palmerston 1,410	Paris 4,325	Parkhill 997	Petrolia 2,711
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
8,126.20	1,454.44	2,240.79	9,503.43	23,318.19	5,117.47	11,695.44
4,163.50	1,356.11	1,978.69	5,315.67	8,209.49	3,527.94	7,479.94
1,452.79	6,485.20	415.82	5,074.04	13,003.44	222.01	23,546.57
560.36			1,797.66	1,083.80	533.34	
2,105.00	768.00	844.18	2,628.00	5,586.50	1,577.04	2,822.00
834.52						
191.70	404.31	54.30	30.07	3,133.82	107.21	529.05
17,434.07	10,468.06	5,533.78	24,348.87	54,335.24	11,085.01	46,073.00
10,340.93	7,284.21	3,532.43	14,093.80	31,037.90	7,255.00	28,463.28
			580.21	858.30		
			357.49			
1,788.64	487.08	179.65	436.21	4,111.18	284.68	5,198.11
	57.48	57.34	119.50	224.03		57.58
121.61	68.92	119.75	388.56	672.72	273.86	801.43
370.79		39.11	376.84	966.69	167.89	121.05
190.96	162.82	77.49	445.25	1,634.89	153.10	220.38
73.86	34.28		18.36	337.66	31.70	483.51
430.28	309.63	290.90	416.12	1,523.93	344.55	2,024.83
588.43	178.83	85.05	729.43	1,257.24	94.38	1,090.73
124.90	26.89	6.45	53.06	318.28	12.55	235.88
85.14			160.23	476.06		347.87
175.40			272.80	344.88	121.37	839.02
721.52			331.21	910.32	987.00	1,569.17
1,000.00	830.00	522.00	1,390.00	5,837.00	829.00	3,416.00
						213.60
16,012.46	9,440.14	4,910.17	20,169.07	50,511.08	10,555.08	45,082.44
1,421.61	1,027.92	623.61	4,179.80	3,824.16	529.93	990.56
376	88	123	389	1,163	256	750
89	33	40	99	190	76	178
7	36	4	12	23	3	68
472	157	167	500	1,376	335	996

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Platts- ville P.V.	Point Edward 1,161	Port Colborne 6,348	Port Credit 1,751	Port Dalhousie 1,565
Population.....					
EARNINGS					
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	2,396.05	5,607.06	29,568.31	13,578.76	15,779.96
Commercial light service.....	924.71	2,255.16	15,772.96	6,234.66	3,367.33
Commercial power service.....	1,079.40	29,810.73	13,632.55	2,871.07	4,856.12
Municipal power.....			6,293.24	951.83	
Street lighting.....	408.00	1,599.96	8,282.98	2,750.00	1,578.00
Merchandise.....			768.42		
Miscellaneous.....	67.79	571.87	692.84	394.08	400.22
Total earnings.....	4,875.95	39,844.78	75,011.30	26,780.40	25,981.63
EXPENSES					
Power purchased.....	2,985.16	34,740.27	40,546.41	18,674.96	17,706.82
Substation operation.....					
Substation maintenance.....					
Distribution system, operation and maintenance.....	21.65	82.68	3,117.56	1,935.50	2,194.23
Line transformer maintenance.....		60.85	418.59	155.25	35.61
Meter maintenance.....	1.10	114.90	1,350.42	306.60	259.14
Consumers' premises expenses.....		51.22	1.15	632.56	752.87
Street lighting, operation and main- tenance.....	2.00	266.39	2,790.41	305.56	353.80
Promotion of business.....			116.96		
Billing and collecting.....	230.25		1,906.15	996.92	781.26
General office, salaries and expenses...	18.47	1,929.51	3,556.47	376.94	1,226.66
Undistributed expenses.....	6.32	12.70	206.68	95.48	67.72
Truck operation and maintenance.....			1,277.28		395.02
Interest.....	98.58	292.01	3,307.26	279.82	410.16
Sinking fund and principal payments on debentures.....	242.09	579.83	8,797.30	682.94	493.73
Depreciation.....	318.00	1,242.00	5,136.00	1,761.00	1,121.00
Other reserves.....				154.67	
Total operating costs and fixed charges.....	3,923.62	39,372.36	72,528.64	26,358.20	25,798.02
Net surplus.....	952.33	472.42	2,482.66	422.20	183.61
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	108	292	1,445	477	617
Commercial light service.....	24	42	224	91	52
Power service.....	1	10	25	8	13
Total.....	133	344	1,694	576	682

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1938

Port Dover 1,640	Port Rowan 659	Port Stanley *741	Preston 6,415	Princeton P.V.	Queenston P.V.	Richmond Hill 1,241
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
8,207.88	2,905.63	12,544.27	30,972.58	2,246.88	3,140.55	8,078.16
4,331.54	1,974.72	4,395.21	18,011.03	801.89	1,068.18	4,056.30
4,533.68	109.12	2,882.65	38,998.30	2,393.68		1,612.29
		784.06	981.17			381.23
2,682.12	825.00	2,387.08	5,519.08	468.00	304.32	1,472.00
90.04	25.47	462.87	998.88	64.79	32.76	
19,845.26	5,839.94	23,456.14	95,481.04	5,975.24	4,545.81	15,599.98
10,341.13	2,712.82	14,099.75	69,084.39	4,414.65	2,572.16	11,042.91
			4,922.74			
			66.67			
1,682.15	93.42	2,424.46	2,059.78	57.24	112.89	1,389.21
124.42	21.10	34.90	189.56	5.78		
332.95	4.05	226.18	703.71	19.47		162.10
72.27		261.64	37.00		62.55	217.05
435.66	67.93	192.33	350.81	65.26	17.70	215.96
		315.00				17.45
781.23	197.88	1,005.21	1,899.21	204.21	129.20	724.60
777.32	20.70	828.05	2,442.30	50.00	180.36	426.96
172.54	1.93	130.31	842.22		6.17	
30.75		332.59	452.67			
293.64	423.51	184.42	1,717.91	66.82	180.11	83.91
1,537.23	535.52	1,048.40	3,986.65	164.11	619.52	389.10
1,596.00	403.00	1,550.00	9,690.00	288.00	419.00	658.00
			111.00			
18,177.29	4,481.86	22,633.24	98,556.62	5,335.54	4,299.66	15,327.25
1,667.97	1,358.08	822.90		639.70	246.15	272.73
			3,075.58			
612	124	665	1,515	82	77	360
116	41	109	226	20	13	68
13	3	8	44	3		13
741	168	782	1,785	105	90	441

*Winter population 741; Summer, 3,500 additional.

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Ridgetown	Riverside	Rockwood	Rodney	St. Catharines
Population.....	1,956	5,090	P.V.	722	27,426
EARNINGS					
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	8,893.88	38,131.41	3,590.80	3,259.36	130,679.17
Commercial light service.....	6,361.51	4,232.80	1,021.47	2,656.15	61,578.11
Commercial power service.....	2,929.25	3,237.15	369.32	2,201.77	160,903.63
Municipal power.....	871.00	2,180.80			
Street lighting.....	3,142.94	3,302.54	783.00	1,233.00	26,553.75
Merchandise.....					
Miscellaneous.....	740.50	1,045.03	7.56	60.87	4,297.39
Total earnings.....	22,939.08	52,129.73	5,772.15	9,411.15	384,012.05
EXPENSES					
Power purchased.....	16,387.90	27,050.91	3,587.27	5,687.14	285,719.73
Substation operation.....					6,398.31
Substation maintenance.....					
Distribution system, operation and maintenance.....	947.04	1,840.43	287.71	436.52	16,822.82
Line transformer maintenance.....	102.28	221.49		17.26	2,012.32
Meter Maintenance.....	592.35	650.20	42.75		4,639.36
Consumers' premises expenses.....	254.95	565.39	37.60	18.74	2,033.94
Street lighting, operation and maintenance.....	625.64	510.81	69.58	171.52	2,280.47
Promotion of business.....		88.00	3.45	27.45	238.12
Billing and collecting.....	912.26	2,023.04		327.35	12,005.36
General office, salaries and expenses...	979.08	2,712.00	553.38	380.67	9,012.25
Undistributed expenses.....	86.31	370.12	1.50	29.94	4,641.83
Truck operation and maintenance.....	268.55	472.17			812.15
Interest.....	284.19	1,963.04	99.29		8,214.67
Sinking fund and principal payments on debentures.....	478.63	5,031.99	101.32		5,568.29
Depreciation.....	1,607.00	4,488.00	519.00	524.00	20,794.00
Other reserves.....				20.29	
Total operating costs and fixed charges.....	23,526.18	47,987.59	5,302.85	7,640.88	381,193.62
Net surplus.....		4,142.14	469.30	1,770.27	2,818.43
Net loss.....	587.10				
NUMBER OF CONSUMERS					
Domestic service.....	569	1,299	158	221	6,775
Commercial light service.....	133	55	35	75	807
Power service.....	20	7	2	6	158
Total.....	722	1,361	195	302	7,740

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1938

St. Clair Beach 110	St. George P.V.	St. Jacobs P.V.	St. Marys 4,017	St. Thomas 16,208	Sarnia 18,155	Scarboro Twp.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
2,142.95	2,978.05	3,997.99	28,016.58	117,048.75	94,073.85	106,102.65
2,080.01	1,428.34	1,615.17	10,914.34	51,146.37	48,019.68	21,787.85
305.09	2,498.21	4,033.63	19,527.64	49,726.96	155,274.29	10,590.55
.....	428.00	460.00	3,353.53	5,302.61	4,588.77	13,023.45
.....	.....	.....	4,992.75	14,834.16	19,217.96	15,154.61
.....	.....	.....	.....	.....	291.65	.....
77.00	82.12	151.07	1,815.32	3,265.61	9,302.60	277.45
4,605.05	7,414.72	10,257.86	68,620.16	241,324.46	330,768.80	166,936.56
2,677.78	4,764.68	7,630.87	38,542.39	168,778.54	218,093.72	88,490.52
.....	.....	.....	1,592.11	7,737.07	8,425.47	.....
.....	.....	.....	473.55	1,341.70	124.91	.....
225.34	77.76	86.76	3,148.93	9,812.74	7,775.87	6,446.18
43.96	15.28	.....	255.21	628.20	516.61	1,303.07
120.11	154.67	45.39	1,548.34	2,303.35	4,757.78	2,532.44
69.46	.....	65.74	1,238.39	5,714.32	1,806.70	2,561.18
.....	132.49	27.28	1,022.61	3,075.25	5,166.82	1,695.02
.....	.....	.....	583.85	2,349.94	4,116.99	.....
185.32	496.87	417.35	1,177.34	5,245.78	7,971.79	6,003.07
54.50	106.24	153.47	1,410.19	9,624.09	11,162.54	5,254.41
.....	.....	2.64	212.52	4,527.93	5,510.15	1,395.08
101.20	.....	.....	770.48	1,377.20	1,651.24	1,632.01
144.71	100.25	.....	1,659.13	79.31	3,260.86	7,295.79
468.07	283.34	.....	2,783.82	.....	15,429.89	16,114.02
399.00	367.00	420.00	5,198.00	15,824.00	20,460.00	13,322.00
.....	.....	.....	200.00	.....	743.41	.....
4,489.45	6,498.58	8,849.50	61,816.86	238,419.42	316,974.75	154,044.79
115.60	916.14	1,408.36	6,803.30	2,905.04	13,794.05	12,891.77
.....
68	148	130	1,017	4,265	4,687	4,907
7	37	30	167	619	634	388
2	3	7	41	78	80	35
77	188	167	1,225	4,962	5,401	5,330

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Seaforth	Simcoe	Spring- field	Stamford Twp.	Stouffville
Population.....	1,708	5,826	378		1,115
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	9,679.71	25,187.36	1,714.68	60,184.34	7,219.03
Commercial light service.....	5,875.27	28,550.02	813.86	10,303.41	3,340.64
Commercial power service.....	3,683.20	25,566.87	906.84	13,479.92	964.18
Municipal power.....	619.83	2,548.86		1,669.21	
Street lighting.....	2,230.50	4,789.77	583.00	7,765.50	1,524.00
Merchandise.....	161.94			913.09	
Miscellaneous.....	83.96	2,025.52	245.74	1,516.06	419.46
Total earnings.....	22,334.41	88,668.40	4,264.12	95,831.53	13,467.31
EXPENSES					
Power purchased.....	14,704.60	47,822.44	2,666.31	40,160.94	8,297.53
Substation operation.....					
Substation maintenance.....	134.29	547.13		492.70	
Distribution system, operation and maintenance.....	939.03	5,999.82	45.55	6,233.85	1,005.94
Line transformer maintenance.....	62.13	509.69		678.93	
Meter maintenance.....	185.10	1,456.37	62.37	2,160.74	143.20
Consumers' premises expenses.....	422.32	306.09		1,139.52	42.26
Street lighting, operation and main- tenance.....	433.58	1,007.47	50.72	869.12	211.16
Promotion of business.....		638.07		718.45	
Billing and collecting.....	663.15	1,747.21	420.97	2,609.57	449.89
General office, salaries and expenses...	976.23	2,901.62	63.39	4,758.08	190.47
Undistributed expenses.....	174.54	321.91		1,202.28	
Truck operation and maintenance....	170.94	468.00		1,456.16	
Interest.....		2,168.14	198.97	6,818.31	85.45
Sinking fund and principal payments on debentures.....		3,808.15	220.46	13,778.29	1,289.37
Depreciation.....	2,216.00	4,291.00	443.00	7,296.00	632.00
Other reserves.....		5,000.00		100.00	20.00
Total operating costs and fixed charges.....	21,081.91	78,993.11	4,171.74	90,472.94	12,367.27
Net surplus.....	1,252.50	9,675.29	92.38	5,358.59	1,100.04
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	494	1,446	101	1,853	381
Commercial light service.....	120	358	33	147	83
Power service.....	14	41	3	17	5
Total.....	628	1,845	137	2,017	469

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Stratford 17,615	Strathroy 2,947	Streets- ville 672	Sutton 852	Swansea 5,831	Tavistock 1,037	Tecumseh 2,245	Thames- ford P.V.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
134,441.07	20,208.96	4,682.95	8,290.38	64,781.02	7,515.36	12,087.58	2,918.51
54,465.10	11,459.54	1,581.23	4,420.53	6,530.04	2,983.94	3,895.90	1,726.57
51,522.25	9,320.59	3,133.52	976.14	13,577.60	8,118.73	2,165.94	1,801.08
8,901.77	1,796.32	.....	.....	2,367.98	384.30	.....	.....
16,635.47	4,068.21	935.50	2,047.30	3,599.04	1,317.96	1,366.35	528.00
469.50	199.06	.....	.....	.....	.....	.....	.....
9,620.19	1,517.11	579.09	34.23	897.25	225.95	130.40	438.27
276,055.35	48,569.79	10,912.29	15,768.58	91,752.93	20,546.24	19,646.17	7,412.43
173,616.29	29,832.82	3,331.48	9,307.85	64,010.84	16,160.26	10,207.60	5,698.13
4,386.21	615.56	1,345.31	.....	.....	.....	.....	.....
1,306.13	.....	.....	.....	.....	.....	.....	.....
7,746.79	1,408.35	536.31	290.69	1,559.62	1,198.61	853.02	373.90
187.44	246.01	3.75	.....	51.52	194.26	222.54	.....
2,695.93	452.83	.....	45.17	612.47	219.12	781.94	100.69
3,379.65	955.56	.....	187.53	1,490.08	376.57	194.01	59.53
3,677.30	909.77	381.67	178.76	309.11	204.35	214.78	65.81
1,825.14	1,150.85	77.73	.....	7.42	.....	.....	101.00
5,922.28	1,175.84	744.19	521.94	2,854.38	317.71	1,280.50	282.86
8,991.51	2,410.32	326.95	239.71	2,656.28	363.53	1,031.78	121.54
2,691.43	324.94	35.29	38.01	294.83	.....	13.88	.....
2,572.96	1,018.23	.....	360.25	722.86	.....	349.08	.....
17,775.00	1,452.01	646.77	556.74	4,100.44	138.72	530.19	52.24
8,339.60	1,872.97	954.94	1,759.96	3,938.28	251.59	1,811.46	146.69
24,024.00	3,912.00	733.00	1,049.00	4,371.00	1,042.00	1,720.00	508.00
.....	.....	27.40	.....	.....	.....	.....	.....
269,137.66	47,738.06	9,144.79	14,535.61	86,979.13	20,466.72	19,210.78	7,510.39
6,917.69	831.73	1,767.50	1,232.97	4,773.80	79.52	435.39	.....
.....	.....	.....	.....	.....	.....	.....	97.96
4,252	830	185	426	1,746	284	569	131
602	174	43	86	76	90	53	45
116	31	4	3	13	8	3	7
4,970	1,035	232	515	1,835	382	625	183

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Thames- ville 814	Thedford 593	Thorn- dale P.V.	Thorold 4,904	Tilbury 1,980
Population.....					
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	3,552.32	3,059.67	1,656.32	18,249.51	6,508.68
Commercial light service.....	2,999.10	2,031.97	854.43	7,248.75	7,513.75
Commercial power service.....	1,397.44	1,629.72	798.50	35,206.04	7,953.07
Municipal power.....	206.31			3,348.14	225.00
Street lighting.....	1,235.37	1,037.50	384.00	3,391.54	1,753.96
Merchandise.....					0.46
Miscellaneous.....	314.90	90.37	29.19	1,134.15	844.55
Total earnings.....	9,705.44	7,849.23	3,722.44	68,578.13	24,799.47
EXPENSES					
Power purchased.....	6,714.34	4,200.32	2,712.11	46,191.23	16,168.68
Substation operation.....				3,128.50	
Substation maintenance.....					
Distribution system, operation and maintenance.....	728.47	177.85	81.41	1,590.37	1,182.69
Line transformer maintenance.....	35.85	107.05		59.78	
Meter maintenance.....	124.60	44.20	1.50	473.99	234.28
Consumers' premises expenses.....	52.90			368.80	64.54
Street lighting, operation and main- tenance.....	244.73	102.78	68.15	860.80	223.72
Promotion of business.....	190.67			126.00	109.53
Billing and collecting.....	309.00	225.60	77.93	1,555.37	558.66
General office, salaries and expenses.....	330.34	78.33	25.59	1,501.70	1,053.08
Undistributed expenses.....	31.21	6.89		394.05	147.76
Truck operation and maintenance.....				124.71	190.23
Interest.....		299.08	51.51		367.48
Sinking fund and principal payments on debentures.....		1,139.47	111.12		483.16
Depreciation.....	831.00	471.00	287.00	3,163.78	1,294.00
Other reserves.....	34.40				
Total operating costs and fixed charges.....	9,627.51	6,852.57	3,416.32	59,539.08	22,077.81
Net surplus.....	77.93	996.66	306.12	9,039.05	2,721.66
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	233	148	68	1,152	445
Commercial light service.....	80	44	24	161	136
Power service.....	7	3	2	17	12
Total.....	320	195	94	1,330	593

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1938

Tillsonburg 3,828	Toronto 648,309	Toronto Twp.	Trafalgar Twp. Area No. 1	Trafalgar Twp. Area No. 2	Wallaceburg 4,537	Wardsville 243
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
16,861.20	4,288,547.59	65,982.08	14,135.14	5,146.40	18,080.67	1,296.67
14,718.12	2,863,274.75	17,002.25	782.60		11,531.52	1,268.51
9,258.50	3,740,500.12	10,408.46	595.45		52,347.45	58.23
1,645.97	1,116,649.73				1,666.21	
4,846.54	512,392.10	5,066.95	†368.08		4,377.50	720.00
470.36					1,611.59	
382.81	283,325.16	1,300.43	291.00	368.27	3,353.92	58.41
48,183.50	12,804,689.45	99,760.17	16,172.27	5,514.67	92,968.86	3,401.82
30,176.42	6,793,693.21	59,939.01	9,608.55	3,105.30	60,457.69	1,579.76
908.22	201,964.07				261.90	
	285,379.44					
2,470.76	307,714.47	3,824.55	2,322.94	230.54	2,748.86	101.73
183.56	32,867.27	129.97			258.43	
874.15	128,919.08	653.66	26.15	50.20	695.16	60.02
31.94	224,346.29	1,211.45			3.17	75.06
957.86	119,144.52	987.69			468.29	21.78
1.20	164,406.11				160.10	
1,401.04	420,102.33	4,176.98			2,850.89	
3,349.58	324,479.29	4,987.74	1,482.35	657.99	3,535.67	163.03
193.99	*220,145.73	293.33	141.49		764.79	
742.22		1,543.40	469.81		860.32	
311.21	1,053,266.04	2,263.46	474.37	522.14	1,883.85	145.46
1,287.01	1,372,489.04	5,669.88	1,213.75		3,636.12	552.46
3,953.00	1,036,936.39	10,890.00	1,385.00	409.00	5,670.00	281.00
150.00						
46,992.16	12,685,853.28	96,571.12	17,124.41	4,975.17	84,255.24	2,980.30
1,191.34	118,836.17	3,189.05		539.50	8,713.62	421.52
			952.14			
1,087	164,406	2,254	360	161	1,107	49
236	25,370	200	3		241	22
33	5,061	29	8		36	1
1,356	194,837	2,483	371	161	1,384	72

*Includes \$90,000.00 provision for possible York Twp. profit.

†Highway lighting.

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality.....	Water- down 885	Waterford	Waterloo	Watford	Welland
Population.....		1,238	8,425	975	10,924
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	5,067.78	5,806.67	58,839.56	6,567.31	52,838.63
Commercial light service.....	1,747.35	2,427.05	24,645.46	2,975.68	32,992.58
Commercial power service.....	1,184.61	4,597.09	31,757.47	2,827.92	85,803.85
Municipal power.....	117.42	202.68	3,688.62	312.15	1,312.10
Street lighting.....	886.00	1,488.00	7,716.08	1,449.49	11,053.01
Merchandise.....			229.14	291.00	
Miscellaneous.....	98.69	276.19	1,952.22	529.45	7,379.40
Total earnings.....	9,101.85	14,797.68	128,828.55	14,953.00	191,379.57
EXPENSES					
Power purchased.....	5,638.06	10,132.79	86,248.78	10,935.15	111,159.57
Substation operation.....			2,454.85		5,622.64
Substation maintenance.....			637.88		162.37
Distribution system, operation and maintenance.....	719.99	1,079.50	5,745.36	862.42	6,192.17
Line transformer maintenance.....		37.25	244.61		106.26
Meter Maintenance.....	91.40	179.68	1,215.62	138.98	3,401.79
Consumers' premises expenses.....			3,134.04	365.79	2,061.73
Street lighting, operation and main- tenance.....	163.02	218.93	1,759.25	141.29	1,815.11
Promotion of business.....			147.50	46.80	3,002.33
Billing and collecting.....	533.10	564.52	3,180.11	541.82	3,782.41
General office, salaries and expenses...	135.43	388.16	3,114.92	798.31	8,273.38
Undistributed expenses.....	23.92	81.38	425.04	16.45	845.71
Truck operation and maintenance.....			943.86	168.31	1,366.38
Interest.....			1,690.97		10,226.83
Sinking fund and principal payments on debentures.....			5,275.27		9,511.42
Depreciation.....	913.00	1,158.00	10,374.00	967.00	14,358.53
Other reserves.....				61.85	391.56
Total operating costs and fixed charges.....	8,217.92	13,840.21	126,592.06	15,044.17	182,280.19
Net surplus.....	883.93	957.47	2,236.49		9,099.38
Net loss.....				91.17	
NUMBER OF CONSUMERS					
Domestic service.....	238	348	1,974	284	2,486
Commercial light service.....	38	74	258	77	480
Power service.....	7	12	72	5	80
Total.....	283	434	2,304	366	3,046

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Wellesley	West Lorne	Weston	Wheatley	Windsor	Woodbridge	Woodstock
P.V.	784	5,048	744	102,704	831	11,382
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
2,387.29	3,058.57	44,635.78	4,047.19	707,507.43	6,364.17	69,738.33
1,502.02	1,818.82	10,225.05	3,214.70	344,548.89	1,845.32	39,484.32
1,276.95	2,405.67	45,480.42	1,531.29	503,846.80	4,827.57	73,116.89
.....	.....	439.70	370.53	20,587.63	434.88	2,913.31
660.00	1,039.17	7,279.51	1,472.00	100,398.12	950.36	8,467.44
.....
49.98	25.81	515.13	238.78	1,303.01	86.06	3,743.75
5,876.24	8,348.04	108,575.59	10,874.49	1,678,191.88	14,508.36	197,464.04
.....
4,015.54	4,744.72	85,595.04	5,780.45	902,544.03	11,660.65	141,385.89
.....	.....	.....	.....	32,477.59	.....	2,786.13
.....	.....	214.27	.....	13,152.73	.....	41.88
.....
127.12	161.43	3,644.86	611.04	37,645.42	295.82	5,479.79
.....	.....	292.57	.....	11,739.20	.....	.....
24.50	17.14	862.06	164.57	32,707.15	176.29	2,526.13
37.91	78.03	2,916.72	.....	58,409.54	119.82	1,665.61
.....
68.01	190.82	1,131.35	318.16	31,226.24	124.31	2,001.92
.....	27.45	.....	12.30	28,440.67	.....	2,522.79
231.00	599.14	907.50	528.45	53,358.05	.....	3,732.48
197.22	193.00	2,851.02	92.29	38,474.25	693.68	6,106.03
7.64	2.36	388.21	55.37	15,829.00	.....	1,850.58
.....	.....	305.56	.....	.....	.....	654.46
.....	.....	1,335.53	298.93	44,915.37	258.46	1,866.84
.....
.....	.....	3,921.81	788.95	134,591.77	381.09	743.47
.....
382.00	729.00	6,275.00	726.00	117,383.00	986.00	14,837.00
.....	18.21	.....	.....	.....	.....	.....
.....
5,090.94	6,761.30	110,641.50	9,376.51	1,552,894.01	14,696.12	188,201.00
.....
785.30	1,586.74	.....	1,497.98	125,297.87	.....	9,263.04
.....	.....	2,065.91	.....	.....	187.76	.....
.....
.....
126	201	1,334	215	23,653	268	3,100
55	55	177	73	3,192	50	473
4	9	30	5	447	7	91
185	265	1,541	293	27,292	325	3,664

STATEMENT

Detailed Operating Reports of Electrical Departments of

**NIAGARA
SYSTEM—Concluded**

Municipality.....	Wyoming	*York Twp.	Zurich	NIAGARA SYSTEM SUMMARY
Population.....	528		P.V.	
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	2,380.59	681,056.49	2,866.28	10,053,777.92
Commercial light service.....	1,375.64	90,606.91	2,411.23	5,365,562.66
Commercial power service.....	388.97	96,170.46		8,732,893.41
Municipal power.....		9,347.52		1,509,414.58
Street lighting.....	780.00	51,327.34	693.00	1,396,293.96
Merchandise.....				14,961.32
Miscellaneous.....	30.69	18,544.07	140.73	494,932.93
Total earnings.....	4,955.89	947,052.79	6,111.24	27,567,836.78
EXPENSES				
Power purchased.....	3,075.87		4,161.97	16,366,875.76
Substation operation.....				401,879.42
Substation maintenance.....				341,093.86
Distribution system, operation and maintenance.....	149.88		582.61	714,619.94
Line transformer maintenance.....				79,723.68
Meter maintenance.....	78.28	†18,232.30	163.67	311,674.98
Consumers' premises expenses.....				433,740.35
Street lighting, operation and main- tenance.....	152.00		87.10	275,924.42
Promotion of business.....				282,146.27
Billing and collecting.....	225.26		224.90	808,708.74
General office, salaries and expenses...	95.58		76.21	732,683.97
Undistributed expenses.....	12.47		6.82	341,204.23
Truck operation and maintenance.....				58,758.66
Interest.....		19,130.43	161.84	1,489,836.42
Sinking fund and principal payments on debentures.....		26,687.45	228.16	2,242,798.84
Depreciation.....	438.00	25,247.00	468.00	2,003,615.43
Other reserves.....				27,393.99
Total operating costs and fixed charges.....	4,227.34	889,297.18	6,161.28	26,912,678.96
Net surplus.....	728.55	57,755.61		655,157.82
Net loss.....			50.04	
NUMBER OF CONSUMERS				
Domestic service.....	146	20,252	127	398,270
Commercial light service.....	48	999	48	58,518
Power service.....	3	155		10,525
Total.....	197	21,406	175	467,313

*For year ended December 31, 1937. Included in Toronto figures. Not added in Summary.

†Toronto Operating Costs.

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

GEORGIAN BAY
SYSTEM

Alliston 1,340	Arthur 1,035	Barrie 8,135	Beaverton 949	Beeton 555	Bradford 988	Brechin P.V.	Canning- ton 764
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
9,194.42	5,260.15	55,608.64	6,065.90	3,427.61	6,307.31	1,014.97	5,378.49
6,622.35	4,901.84	35,031.45	2,515.43	2,250.76	3,638.39	1,163.79	2,716.72
2,416.74	1,415.88	17,117.06	1,304.74	1,522.63	2,040.38	876.71	575.91
760.37	674.47	1,054.85			326.90		
1,977.50	1,485.00	6,153.12	1,326.98	1,264.00	1,072.00	468.70	1,122.98
		29.97					
76.59	23.61	556.07	843.92	21.66	69.05		112.15
21,047.97	13,760.95	115,551.16	12,056.97	8,486.66	13,454.03	3,524.17	9,906.25
12,628.29	8,405.00	84,983.43	7,623.79	5,559.74	8,003.89	2,492.31	6,189.62
		499.44					
		10.82					
893.99	693.50	7,367.79	721.71	270.82	423.49	264.96	663.67
		1,286.58					
151.25	59.85	322.31	26.84	73.76	237.42		163.56
393.55		1,635.80	82.53				199.80
263.00	103.43	598.86	209.87	119.67	191.51	124.93	154.54
		38.03					
729.95		4,797.81	596.88	192.42	518.60		534.32
463.97	453.56	1,938.77	381.03	128.15	219.44	149.43	270.78
40.10	22.75	400.50	3.93		39.08		
		651.67					
1,259.11	826.15	817.59	208.15	405.26	884.52	189.56	303.94
1,891.04	959.71	1,660.96	685.42	570.51	1,126.03	127.80	800.35
1,527.00	1,105.00	8,422.08	1,335.00	693.00	1,037.00	171.00	822.00
20.00		28.87			30.00		50.00
20,261.25	12,628.95	115,461.31	11,875.15	8,013.33	12,710.98	3,519.99	10,152.58
786.72	1,132.00	89.85	181.82	473.33	743.05	4.18	
							246.33
353	198	2,066	331	127	235	48	255
106	89	417	68	36	67	27	70
14	4	47	9	5	10	4	9
473	291	2,530	408	168	312	79	334

STATEMENT

Detailed Operating Reports of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality.....	Chatsworth 321	Chesley	Coldwater 589	Collingwood 5,478	Cookstown P.V.
Population.....		1,815			
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	1,981.46	8,837.28	3,141.65	26,656.94	2,246.66
Commercial light service.....	1,560.13	4,963.92	1,885.84	12,282.37	1,361.16
Commercial power service.....		6,271.22	6,460.39	21,283.41	694.84
Municipal power.....		589.93		1,103.73	
Street lighting.....	615.00	1,457.00	873.00	3,807.00	840.00
Merchandise.....		31.12			
Miscellaneous.....	39.10	329.49	198.26	1,241.08	142.61
Total earnings.....	4,195.69	22,479.96	12,559.14	66,374.53	5,285.27
EXPENSES					
Power purchased.....	2,424.75	17,138.44	9,205.42	48,905.55	2,854.64
Substation operation.....				339.47	
Substation maintenance.....					
Distribution system, operation and maintenance.....	99.34	452.46	507.49	1,269.61	341.10
Line transformer maintenance.....		165.04		97.06	
Meter maintenance.....		72.07	86.35	612.34	63.56
Consumers' premises expenses.....		240.18	129.78	107.63	
Street lighting, operation and maintenance.....	111.53	284.25	144.07	654.69	167.60
Promotion of business.....		261.92			
Billing and collecting.....		548.31	345.08	1,940.08	210.48
General office, salaries and expenses...	240.18	766.78	187.82	1,149.00	51.10
Undistributed expenses.....		53.77		165.48	5.61
Truck operation and maintenance.....		85.31		339.13	
Interest.....	12.42	1.70	149.87		340.12
Sinking fund and principal payments on debentures.....	109.64		349.32		387.78
Depreciation.....	304.00	1,541.00	659.00	4,596.00	591.00
Other reserves.....			30.00	175.00	
Total operating costs and fixed charges.....	3,301.86	21,611.23	11,794.20	60,351.04	5,012.99
Net surplus.....	893.83	868.73	764.94	6,023.49	272.28
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	85	427	148	1,350	103
Commercial light service.....	34	98	52	200	30
Power service.....		21	3	55	3
Total.....	119	546	203	1,605	136

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Creemore 632	Dundalk 666	Durham 1,852	Elmvale P.V.	Elmwood P.V.	Flesherton 447	Grand Valley 600	Graven- hurst 2,052
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
3,148.30	2,868.77	6,661.41	3,046.17	1,310.29	2,482.14	3,309.53	9,613.27
2,065.07	2,772.73	4,984.65	1,889.87	681.98	1,831.52	2,176.68	7,696.93
796.00	2,567.04	3,661.37	2,449.17	1,135.67	213.09	1,263.19	10,000.27
.....	.....	661.19	142.91	.....	.....	.....	646.95
726.00	1,230.00	1,840.00	718.00	475.19	609.00	884.00	2,092.98
.....
95.64	135.00	377.66	152.52	104.22	127.36	203.62	301.04
.....
6,831.01	9,573.54	18,186.28	8,398.64	3,707.35	5,263.11	7,837.02	30,351.44
.....
.....
4,696.09	6,685.44	12,191.00	5,281.73	2,142.13	2,395.88	5,872.74	19,261.79
.....
.....
239.40	698.00	762.46	444.86	43.89	202.95	288.01	2,556.20
.....	.....	64.86	.....	.....	120.41	.....	287.27
5.00	188.00	204.55	61.02	11.60	78.40	34.67	201.37
.....	.....	60.20	56.41	.....	.....	.....	221.52
.....
180.16	171.34	175.93	102.69	8.10	100.75	80.80	371.56
.....	.....	18.21	.....	.....	50.00	.....	22.36
225.52	.....	672.01	291.98	.....	.....	.....	1,116.61
50.84	888.09	741.01	198.68	177.69	308.97	630.57	420.57
.....	.....	40.92	.....	.....	.....	.....	597.15
.....	.....	216.31	.....	.....	.....	.....	267.40
1.59	1.08	3.56	98.57	34.37	351.97	.....	500.00
.....
.....	.....	.....	356.79	246.76	330.00	.....	.....
479.00	536.00	1,356.00	773.00	289.00	399.00	645.00	2,362.00
.....	.....	.....	25.00	.....	.....	.....	150.00
.....
5,877.60	9,167.95	16,507.02	7,690.73	2,953.54	4,338.33	7,551.79	28,335.80
.....
953.41	405.59	1,679.26	707.91	753.81	924.78	285.23	2,015.64
.....
.....
.....
151	173	442	177	64	131	163	502
55	72	104	57	23	54	52	112
3	5	14	8	1	1	4	16
.....
209	250	560	242	88	186	219	630

STATEMENT

Detailed Operating Reports of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality.....	Hanover	Holstein	Huntsville	Kincardine	Kirkfield
Population.....	3,191	P.V.	2,707	2,458	P.V.
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	19,572.76	990.17	12,031.50	15,666.78	889.85
Commercial light service.....	7,865.78	640.45	9,828.51	8,887.73	1,251.14
Commercial power service.....	19,290.60	130.13	12,249.11	10,118.16	.....
Municipal power.....	298.51	.....	1,400.00	1,389.74	.....
Street lighting.....	2,988.00	350.00	2,780.00	4,627.50	480.00
Merchandise.....	.....	.....	.....	.....	.....
Miscellaneous.....	1,073.42	67.50	1,008.32	61.96	0.59
Total earnings.....	51,089.07	2,178.25	39,297.44	40,751.87	2,621.58
EXPENSES					
Power purchased.....	31,434.92	1,567.90	27,602.33	24,996.60	1,321.75
Substation operation.....	.....	.....	.....	335.94	.....
Substation maintenance.....	.....	.....	.....	.....	.....
Distribution system, operation and maintenance.....	1,890.94	30.90	1,828.89	2,065.38	64.38
Line transformer maintenance.....	24.24	.....	.....	.....	.....
Meter maintenance.....	280.53	25.85	641.41	609.82	.....
Consumers' premises expenses.....	290.81	.....	446.03	204.96	.....
Street lighting, operation and maintenance.....	299.69	27.30	469.87	549.55	32.36
Promotion of business.....	.....	.....	478.45	10.23	.....
Billing and collecting.....	1,169.31	.....	1,195.63	757.00	.....
General office, salaries and expenses.....	998.61	153.12	1,414.01	794.68	103.27
Undistributed expenses.....	310.64	.....	497.28	117.97	.....
Truck operation and maintenance.....	308.59	.....	255.17	225.97	.....
Interest.....	559.33	3.84	88.01	952.36	96.99
Sinking fund and principal payments on debentures.....	3,581.97	.....	232.78	4,208.60	465.53
Depreciation.....	3,915.00	135.00	1,519.00	2,620.00	250.00
Other reserves.....	.....	.....	873.65	.....	.....
Total operating costs and fixed charges.....	45,064.58	1,943.91	37,542.51	38,449.06	2,334.28
Net surplus.....	6,024.49	234.34	1,754.93	2,302.81	287.30
Net loss.....	.....	.....	.....	.....	.....
NUMBER OF CONSUMERS					
Domestic service.....	747	49	674	670	32
Commercial light service.....	139	20	126	118	20
Power service.....	23	1	15	17	.....
Total.....	909	70	815	805	52

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Lucknow	Markdale	Meaford	Midland	Mildmay	Mount Forest	Neustadt	Orangeville
1,036	781	2,719	6,669	746	1,946	441	2,479
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
6,836.80	3,833.57	12,983.77	35,654.70	3,163.08	8,555.89	2,031.96	15,348.73
3,643.50	2,704.92	7,762.61	16,542.12	2,008.67	7,127.86	1,024.43	9,943.00
3,123.89	1,102.56	7,213.02	47,759.33	909.24	3,427.48	390.98	5,615.92
497.57	40.00	875.70	2,778.36		906.90		1,150.72
1,850.00	905.50	3,008.95	6,376.00	666.00	2,161.00	780.00	2,979.48
							40.76
169.24	175.25	1,392.34	2,099.92	148.20	212.88	124.85	508.96
16,121.00	8,761.80	33,236.39	111,210.43	6,895.19	22,392.01	4,352.22	35,587.57
9,918.11	5,376.68	20,825.91	77,415.68	4,338.75	17,549.95	1,713.01	24,277.02
			1,971.56				
			707.69				
160.92	259.20	2,002.82	3,772.78	186.52	815.93	6.34	1,685.43
	103.54	59.24	126.43			23.98	
88.58	108.25	149.24	1,002.83	81.65	117.35	8.56	202.80
	15.60	124.49	320.32	138.58			205.91
91.63	85.88	380.68	642.40	126.57	315.46	82.08	583.76
			442.91				100.00
		762.75	2,667.18		665.84		1,246.18
1,100.33	566.41	706.00	1,730.87	317.87	123.48	254.97	513.41
		165.99	1,401.81		37.77		67.11
		113.99	271.56		154.43		
364.89	243.61	1,334.62	795.62	523.75	475.68	125.93	160.46
1,272.95	410.23	1,944.73	4,689.81	521.03	829.65	1,279.84	98.95
903.00	678.00	1,660.00	11,494.00	259.00	1,577.00	683.00	2,334.00
		15.00					
13,900.41	7,847.40	30,245.46	109,453.45	6,493.72	22,662.54	4,177.71	31,475.03
2,220.59	914.40	2,990.93	1,756.98	401.47		174.51	4,112.54
					270.53		
268	223	664	1,584	161	471	93	686
79	87	141	222	51	153	26	156
6	10	19	62	3	13	1	25
353	320	824	1,868	215	637	120	867

STATEMENT

Detailed Operating Reports of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality.....	Owen Sound 13,118	Paisley 773	Penetan- guishene 4,177	Port Elgin 1,293	Port McNicol 911
Population.....					
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	61,153.39	3,934.83	11,674.28	8,722.32	3,639.61
Commercial light service.....	40,557.61	2,946.10	6,519.25	5,366.44	836.47
Commercial power service.....	43,128.16	845.69	15,384.22	2,665.65	.....
Municipal power.....	.....	.....	2,673.86	578.60	.....
Street lighting.....	13,476.58	1,260.00	2,226.00	2,518.04	964.00
Merchandise.....	577.39	.....	.....	.....	.....
Miscellaneous.....	1,090.99	203.34	87.28	485.27	0.79
Total earnings.....	159,984.12	9,189.96	38,564.89	20,336.32	5,440.87
EXPENSES					
Power purchased.....	115,903.83	5,552.01	22,810.22	13,151.52	2,772.99
Substation operation.....	.....	.....	155.63	.....	.....
Substation maintenance.....	3,238.41	.....	.....	.....	.....
Distribution system, operation and maintenance.....	3,920.18	353.82	2,292.87	1,069.17	432.17
Line transformer maintenance.....	948.29	15.57	89.25	.....	.....
Meter maintenance.....	1,767.07	2.60	125.27	62.90	132.80
Consumers' premises expenses.....	160.10	.....	266.53	257.25	.....
Street lighting, operation and main- tenance.....	1,853.40	51.25	480.94	322.54	154.10
Promotion of business.....	.....	.....	.....	.....	.....
Billing and collecting.....	5,919.78	.....	1,102.33	636.38	373.36
General office, salaries and expenses...	5,700.83	504.83	581.19	275.23	265.28
Undistributed expenses.....	2,490.89	.....	168.51	39.92	51.41
Truck operation and maintenance....	1,143.24	.....	229.43	139.50	.....
Interest.....	52.59	367.86	401.89	1,582.89	46.46
Sinking fund and principal payments on debentures.....	.....	971.01	2,092.30	1,787.31	162.27
Depreciation.....	8,157.00	605.00	3,341.00	1,082.00	460.00
Other reserves.....	400.00	.....	200.00	.....	.....
Total operating costs and fixed charges.....	151,655.61	8,423.95	34,337.36	20,406.61	4,850.84
Net surplus.....	8,328.51	766.01	4,227.53	.....	590.03
Net loss.....	.....	.....	.....	70.29	.....
NUMBER OF CONSUMERS					
Domestic service.....	3,315	193	647	435	209
Commercial light service.....	564	55	104	102	24
Power service.....	114	4	27	6	.....
Total.....	3,993	252	778	543	233

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Port Perry 1,118	Priceville P.V.	Ripley 432	Rosseau 300	Shelburne 1,099	South- ampton 1,202	Stayner 1,034	Sunder- land P.V.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
6,846.61	750.50	3,527.58	2,823.64	5,612.68	9,556.40	4,736.16	2,574.87
3,144.58	287.48	1,608.17	1,119.75	3,814.48	3,690.09	3,168.92	1,741.17
2,607.63	120.71	837.17		1,945.18	2,682.87	1,868.09	238.44
313.93				529.07	1,123.91		
1,433.75	560.00	1,070.00	1,102.50	864.00	2,298.81	1,320.00	720.00
542.15	4.89	6.71	31.48	314.62	153.32	288.29	15.09
14,888.65	1,723.58	7,049.63	5,077.37	13,080.03	19,505.40	11,381.46	5,289.57
11,470.30	648.73	3,774.86	3,048.63	8,951.40	10,884.35	7,977.91	3,570.20
950.19	3.93	123.31	264.74	763.27	959.31	614.27	248.97
14.03		22.52	72.80	172.95	47.10		
				108.80	68.55	89.70	73.04
					196.24	22.73	
222.87	26.53	37.63	59.76	198.01	223.83	188.63	159.22
718.56			210.74	488.23	816.20	522.26	288.30
335.19	77.12	504.09	88.51	281.18	487.23	389.80	140.18
					36.26	19.06	
692.66	83.88	519.10	689.19	42.46	140.95		
				883.15	32.12		1.68
1,000.33	439.22	510.92	446.16	375.94	1,404.30		
989.00	220.00	557.00	280.00	1,128.00	1,010.00	1,034.00	347.00
						20.00	
16,393.13	1,499.41	6,049.43	5,160.53	12,510.24	17,157.47	10,910.48	4,828.59
	224.17	1,000.20		569.79	2,347.93	470.98	460.98
1,504.48			83.16				
331	36	127	63	296	472	264	115
78	10	49	18	81	90	92	45
11	1	1		14	12	12	12
420	47	177	81	391	574	368	162

STATEMENT

Detailed Operating Reports of Electrical Departments of

GEORGIAN BAY SYSTEM—Concluded

Municipality.....	Tara	Teeswater	Thornton	Tottenham	Uxbridge
Population.....	472	838	P.V.	526	1,527
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	3,165.71	4,979.86	1,476.17	3,582.65	7,996.45
Commercial light service.....	1,684.69	2,578.69	546.45	2,343.43	4,258.76
Commercial power service.....	1,160.69	1,157.23	268.64	276.19	823.77
Municipal power.....		180.00		197.35	
Street lighting.....	1,301.00	1,294.00	660.00	931.00	1,719.00
Merchandise.....					
Miscellaneous.....	5.24	147.10	0.79	17.59	13.70
Total earnings.....	7,317.33	10,336.88	2,952.05	7,348.21	14,811.68
EXPENSES					
Power purchased.....	3,680.27	5,702.79	1,378.50	4,389.12	11,389.62
Substation operation.....					
Substation maintenance.....					
Distribution system, operation and maintenance.....	44.29	191.24	69.90	335.44	410.26
Line transformer maintenance.....		9.25			
Meter maintenance.....	9.90	76.35		100.10	157.58
Consumers' premises expenses.....		53.25			78.84
Street lighting, operation and maintenance.....	71.88	132.98	37.03	105.26	160.71
Promotion of business.....		36.79			
Billing and collecting.....				268.63	610.77
General office, salaries and expenses...	612.75	628.84	70.38	143.03	454.05
Undistributed expenses.....		17.72			12.70
Truck operation and maintenance.....					
Interest.....	100.49	445.30	85.10	307.22	
Sinking fund and principal payments on debentures.....	570.10	1,552.03	568.79	496.17	
Depreciation.....	650.00	850.00	377.00	491.00	812.00
Other reserves.....					45.00
Total operating costs and fixed charges.....	5,739.68	9,696.54	2,586.70	6,635.97	14,131.53
Net surplus.....	1,577.65	640.34	365.35	712.24	680.15
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	148	227	62	137	397
Commercial light service.....	38	57	12	47	99
Power service.....	5	5	2	6	9
Total.....	191	289	76	190	505

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Victoria Harbor 1,092	Walkerton 2,358	Waubaushene P.V.	Wiarton 1,743	Windermere 128	Wingham 2,085	Woodville 418	GEORGIAN BAY SYSTEM SUMMARY
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
3,023.24	15,177.95	2,808.35	7,875.41	2,602.82	12,228.59	2,078.04	497,669.03
958.44	9,027.13	692.73	7,982.04	1,202.38	7,688.70	1,043.76	299,032.01
.....	5,378.16	676.34	3,096.11	85.18	10,091.04	541.76	291,275.05
108.55	603.53	95.68	1,572.46	.....	470.83	.....	23,746.57
663.00	2,840.11	464.00	2,304.03	390.00	3,372.00	620.03	107,361.73
.....	378.80	.....	.....	.....	1,485.73	.....	2,543.77
.....	1,014.79	.....	496.91	7.96	1,127.11	212.06	18,461.55
4,753.23	34,420.47	4,737.10	23,326.96	4,288.34	36,464.00	4,495.65	1,240,089.71
.....
2,335.34	19,646.09	3,207.49	13,368.50	1,804.29	16,821.35	3,276.17	820,796.76
.....	.....	.....	.....	.....	1,790.93	.....	5,092.97
.....	.....	.....	.....	.....	.....	.....	3,956.92
212.53	1,145.88	147.93	458.32	245.81	2,500.98	354.46	52,089.37
.....	181.12	.....	.....	.....	.....	.....	3,822.18
14.98	634.71	74.24	124.87	31.10	521.57	88.54	10,344.81
.....	319.39	.....	.....	.....	.....	30.01	6,258.44
141.28	590.15	91.34	278.37	38.21	303.03	127.69	14,063.15
.....	.....	.....	.....	.....	.....	.....	1,458.90
342.10	1,069.88	.....	904.89	152.10	597.08	243.62	36,449.15
201.54	1,437.71	373.04	426.18	63.60	1,516.72	145.99	34,297.95
.....	160.07	.....	79.52	.....	211.99	.....	7,255.91
.....	674.52	.....	140.16	.....	535.92	.....	5,893.25
0.79	2,502.02	51.74	1,557.51	541.71	1,852.54	100.43	25,055.40
.....	2,553.26	.....	1,443.56	494.30	1,631.65	305.58	47,943.38
513.00	1,640.00	399.00	932.00	359.00	3,535.00	261.00	87,698.08
.....	.....	50.00	.....	.....	.....	50.00	2,162.52
3,761.56	32,554.80	4,394.78	19,713.88	3,730.12	31,818.76	4,983.49	1,164,639.14
991.67	1,865.67	342.32	3,613.08	558.22	4,645.24	.....	75,450.57
.....	.....	.....	.....	.....	.....	487.84	.....
.....
208	604	204	391	56	561	110	23,459
29	140	23	116	13	148	31	5,226
1	17	4	16	1	24	2	727
238	761	231	523	70	733	143	29,412

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO SYSTEM

Municipality.....	Alexandria	Apple Hill	Athens	Bath	Belleville
Population.....	1,919	P.V.	691	346	14,560
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	7,097.15	1,255.45	3,110.74	1,675.92	75,477.81
Commercial light service.....	5,294.52	850.48	1,520.14	823.16	47,956.73
Commercial power service.....	2,345.39	355.80	945.61		34,898.79
Municipal power.....	788.96				3,477.21
Street lighting.....	1,936.00	478.48	1,055.00	525.00	9,607.71
Merchandise.....		2.48			3,759.21
Miscellaneous.....	415.20		145.31	2.69	3,958.15
Total earnings.....	17,877.22	2,942.69	6,776.80	3,026.77	179,135.61
EXPENSES					
Power purchased.....	9,611.22	1,528.57	4,420.03	1,881.23	128,500.38
Substation operation.....					2,407.63
Substation maintenance.....					
Distribution system, operation and maintenance.....	706.11	88.40	169.69	86.55	3,018.89
Line transformer maintenance.....	23.85				491.57
Meter maintenance.....	282.49	49.03	5.55		1,411.19
Consumers' premises expenses.....					3,725.16
Street lighting, operation and maintenance.....	175.68	22.00	60.75	9.98	1,736.86
Promotion of business.....					238.39
Billing and collecting.....	928.41				3,132.73
General office, salaries and expenses.....	434.68	262.55	251.97	149.92	7,513.39
Undistributed expenses.....	57.91				1,399.41
Truck operation and maintenance.....					
Interest.....	561.15	116.36	522.04	414.35	267.71
Sinking fund and principal payments on debentures.....	2,928.08	406.74	650.08	281.12	
Depreciation.....	1,570.00	196.00	542.00	217.00	7,650.00
Other reserves.....	200.00		100.00		
Total operating costs and fixed charges.....	17,479.58	2,669.65	6,722.11	3,040.15	161,493.31
Net surplus.....	397.64	273.04	54.69		17,642.30
Net loss.....				13.38	
NUMBER OF CONSUMERS					
Domestic service.....	329	54	163	44	3,285
Commercial light service.....	108	22	50	18	610
Power service.....	13	2	1		97
Total.....	450	78	214	62	3,992

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Bloomfield 666	Bowman- ville 3,850	Brighton 1,366	Brockville 9,983	Cardinal 1,529	Carleton Place 4,278	Chester- ville 1,068	Cobden 621
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
3,118.12	27,271.72	8,868.36	48,290.09	6,786.01	17,670.96	4,449.42	2,230.69
1,484.35	9,787.18	3,816.07	27,282.22	2,196.41	9,078.08	3,641.15	2,426.74
804.59	45,892.95	2,814.72	33,911.59	593.79	23,131.16	1,938.02	357.96
.....	.....	.....	4,284.60	.....	1,374.92	.....	.....
660.00	3,268.31	2,055.00	8,764.00	962.00	4,814.54	1,059.16	852.00
.....	.....	52.06	.....	.....	.....	386.33	.....
22.48	2,399.64	167.26	6,270.78	147.39	1,794.37	460.05	36.41
6,089.54	88,619.80	17,773.47	128,803.28	10,685.60	57,864.03	11,934.13	5,903.80
.....
4,250.16	65,318.23	8,717.05	82,345.23	6,065.72	39,132.93	7,135.65	3,558.40
.....	38.27	.....	5,236.67	.....	.....	.....	.....
.....	.....	.....	362.08	.....	174.36	.....	.....
152.87	2,349.64	2,010.77	2,994.67	1,022.96	1,741.17	1,185.17	80.29
.....	32.46	18.90	469.36	.....	320.32	.....	.....
11.49	527.92	152.70	1,892.66	34.45	923.10	17.00	41.04
29.17	563.66	117.56	168.42	.....	613.81	211.11	.....
156.04	560.88	194.11	1,344.55	156.81	464.77	203.74	139.20
20.00	294.96	154.05	278.02	89.74	408.56	.....	.....
.....	2,063.69	446.88	2,281.18	.....	1,555.31	528.61	295.95
300.23	2,080.04	1,053.00	5,078.07	596.49	3,399.78	511.12	101.19
.....	1,052.94	417.38	1,427.80	.....	616.79	.....	.....
.....	.....	468.45	663.06	.....	418.98	.....	.....
322.38	1,272.64	757.49	.....	534.75	1,948.15	97.34	386.22
540.40	2,912.40	1,074.21	.....	500.00	3,224.60	249.65	514.28
600.00	2,556.00	726.00	10,256.00	495.00	2,400.00	635.00	129.00
.....	.....	.....	.....	50.00	.....	.....	.....
6,382.74	81,623.73	16,308.55	114,797.77	9,545.92	57,342.63	10,774.39	5,245.57
.....	6,996.07	1,464.92	14,005.51	1,139.68	521.40	1,159.74	658.23
293.20	.....	.....	.....	.....	.....	.....	.....
.....
177	1,143	519	2,823	365	998	242	108
36	154	94	435	62	196	69	50
7	27	10	72	3	18	3	1
220	1,324	623	3,330	430	1,212	314	159

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality.....	Cobourg	Colborne	Deseronto	Finch	Hastings
Population.....	5,125	964	1,300	371	762
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	30,102.72	4,870.29	5,573.01	2,108.48	3,876.91
Commercial light service.....	19,118.32	3,005.24	2,196.33	1,624.33	2,012.09
Commercial power service.....	22,006.94	612.15	1,254.31	354.43	251.45
Municipal power.....	2,005.84	214.20	727.97		
Street lighting.....	5,768.56	1,471.00	1,339.92	456.00	1,271.39
Merchandise.....		167.81			
Miscellaneous.....	2,315.60	235.85	176.75	150.88	440.30
Total earnings.....	81,317.98	10,576.54	11,268.29	4,694.12	7,852.14
EXPENSES					
Power purchased.....	47,578.55	5,255.41	6,719.99	2,808.00	3,724.70
Substation operation.....	103.65				
Substation maintenance.....					
Distribution system, operation and maintenance.....	3,609.46	1,071.57	1,683.52	226.58	500.72
Line transformer maintenance.....	302.28		31.71		
Meter maintenance.....	1,482.41	127.19	29.90	23.40	341.39
Consumers' premises expenses.....	287.83				
Street lighting, operation and maintenance.....	1,268.71	144.55	399.92	64.05	121.05
Promotion of business.....	*5,456.50	107.29	347.68	62.64	
Billing and collecting.....	2,721.49		387.43		
General office, salaries and expenses...	4,028.69	1,358.03	537.40	291.42	500.91
Undistributed expenses.....	916.14	135.37	158.05		32.47
Truck operation and maintenance.....		464.95	241.42		
Interest.....	2,252.40	649.12	144.10	269.50	927.34
Sinking fund and principal payments on debentures.....	4,726.29	514.79	615.30	340.79	830.43
Depreciation.....	3,943.00	352.00	462.00	313.00	584.00
Other reserves.....					
Total operating costs and fixed charges.....	78,677.40	10,180.27	11,758.42	4,399.38	7,563.01
Net surplus.....	2,640.58	396.27		294.74	289.13
Net loss.....			490.13		
NUMBER OF CONSUMERS					
Domestic service.....	1,282	256	301	96	196
Commercial light service.....	252	76	67	35	50
Power service.....	50	5	7	1	4
Total.....	1,584	337	375	132	250

*Includes extraordinary expenditure in respect to three wire services converting Gas customers to Electric customers.

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Havelock	Kemptville	Kingston	Lakefield	Lanark	Lancaster	Lindsay
1,164	1,204	24,331	1,332	702	588	7,294
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
5,008.14	6,934.59	130,998.05	5,777.12	2,959.64	1,936.30	40,425.68
2,707.53	4,633.63	84,357.06	4,209.36	1,488.67	1,634.62	26,070.16
2,328.40	4,109.04	98,702.30	3,326.84			25,563.07
		8,235.56				2,611.66
1,497.00	1,768.00	22,456.17	1,732.44	585.00	850.00	6,439.44
474.62	1,020.90	1,403.34	68.89	111.48	6.04	5,040.17
12,015.69	18,466.16	346,152.48	15,114.65	5,144.79	4,426.96	106,150.18
6,325.67	10,956.69	222,456.83	8,974.60	2,857.28	2,165.75	72,140.46
		5,181.89				
		2,144.34				
1,024.64	1,405.43	14,390.61	970.68	143.80	116.66	1,817.08
	2.02	1,125.46				690.98
	201.67	4,500.32	223.23	14.25	22.47	2,114.58
	122.59	6,069.27				1,484.86
132.05	202.27	4,022.21	277.35	48.75	22.16	1,992.29
	190.52	346.86	128.70			50.46
	1,062.88	6,237.40	369.42			2,982.22
566.16	400.32	11,670.28	581.86	393.45	275.00	6,428.71
	202.60	7,747.87	117.66			1,313.37
208.49	322.68	2,487.18				
492.23	999.42	5,305.67	1,001.05	39.53		4,179.91
2,376.14	851.52	4,439.50	1,131.36			6,099.11
996.00	1,186.00	26,877.00	1,342.00	331.00	339.00	4,651.00
		2,500.00				
12,121.38	18,106.61	327,502.69	15,117.91	3,828.06	2,941.04	105,945.03
	359.55	18,649.79		1,316.73	1,485.92	205.15
105.69			3.26			
287	337	6,239	323	160	88	1,961
63	84	927	66	38	34	331
3	7	142	6			72
353	428	7,308	395	198	122	2,364

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality.....	Madoc	Marmora	Martin- town P.V.	Maxville	Napanee
Population.....	1,210	1,014		758	3,018
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	4,793.35	3,356.04	850.48	3,587.46	22,793.81
Commercial light service.....	3,526.75	1,822.96	932.70	2,596.03	14,261.30
Commercial power service.....	1,256.25	393.07			9,510.30
Municipal power.....					770.10
Street lighting.....	1,500.00	1,298.00	195.00	1,188.00	4,215.00
Merchandise.....					1,597.82
Miscellaneous.....	104.64	43.20	43.92	77.62	876.66
Total earnings.....	11,180.99	6,913.27	2,022.10	7,449.11	54,024.99
EXPENSES					
Power purchased.....	7,297.09	3,813.73	1,193.60	3,791.75	32,110.53
Substation operation.....					
Substation maintenance.....					
Distribution system, operation and maintenance.....	1,009.17	358.56	35.21	376.97	3,219.18
Line transformer maintenance.....					123.16
Meter maintenance.....	35.62	10.70	0.75	123.97	672.20
Consumers' premises expenses.....				36.55	445.96
Street lighting, operation and main- tenance.....	199.13	157.69	12.50	217.95	423.30
Promotion of business.....	196.70	33.98		39.52	170.72
Billing and collecting.....					1,853.89
General office, salaries and expenses...	979.22	639.94	142.83	337.41	4,647.86
Undistributed expenses.....	34.47				1,750.74
Truck operation and maintenance.....					
Interest.....		282.94		178.04	459.61
Sinking fund and principal payments on debentures.....		987.56		1,140.20	3,007.78
Depreciation.....	468.00	588.00	165.00	578.00	1,808.00
Other reserves.....				100.00	
Total operating costs and fixed charges.....	10,219.40	6,873.10	1,549.89	6,920.36	50,692.93
Net surplus.....	961.59	40.17	472.21	528.75	3,332.06
Net loss.....					
NUMBER OF CONSUMERS					
Domestic service.....	275	217	45	151	816
Commercial light service.....	90	48	23	49	197
Power service.....	6	3			30
Total.....	371	268	68	200	1,043

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Newcastle	Norwood	Omemees	Oshawa	Ottawa	Perth	Peterborough
690	716	598	24,844	142,852	4,183	23,450
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
5,808.74	4,236.22	2,293.70	168,723.26	515,503.30	23,491.92	146,900.81
2,335.43	2,305.12	1,644.84	66,447.93	191,360.07	13,786.32	79,392.37
1,735.45	534.87	2,461.88	224,942.09	52,697.64	12,914.98	103,271.24
.....	.....	.....	8,436.13	20,787.57	1,629.71	7,199.91
738.68	1,581.00	1,013.70	12,040.66	78,283.99	2,569.50	22,246.84
.....	.....	.....	.....	.....	1,391.20	.....
62.40	663.56	64.27	8,992.31	3,529.07	3,261.17	2,509.83
10,680.70	9,320.77	7,478.39	489,582.38	862,161.64	59,044.80	361,521.00
.....
4,448.71	3,256.51	4,517.57	396,892.05	399,442.33	36,421.40	227,750.55
.....	.....	.....	59.56	28,044.87	384.76	6,758.99
.....	.....	.....	.....	932.84	.....	280.73
90.95	786.86	435.20	7,326.49	24,855.72	1,374.22	8,651.13
12.29	.....	16.50	598.90	1,685.66	120.05	681.43
84.64	9.83	39.85	4,330.74	11,123.14	712.65	6,639.43
208.95	.....	.....	5,031.67	3,871.13	907.72	10,456.97
.....
15.02	138.78	132.03	2,157.69	36,465.30	436.26	4,181.65
6.00	107.40	.....	2,265.96	9,573.20	179.05	902.00
844.88	.....	.....	9,194.51	43,661.33	1,957.97	5,747.06
171.38	467.21	252.00	8,327.43	32,191.96	3,299.96	7,124.45
16.89	.....	12.41	4,216.72	13,051.40	526.23	4,788.71
.....	214.25	.....	.....	2,120.96	580.49	1,689.32
643.96	1,381.66	28.80	7,119.97	27,885.85	3,348.56	27,491.87
.....
455.36	1,373.28	232.76	13,952.82	16,951.10	1,908.68	14,263.54
723.00	1,160.00	703.00	12,000.00	88,646.00	4,002.00	18,567.00
.....	.....	.....	.....	21,616.13	.....	900.00
.....
7,722.03	8,895.78	6,370.12	473,474.51	762,118.92	56,160.00	346,874.83
2,958.67	424.99	1,108.27	16,107.87	100,042.72	2,884.80	14,646.17
.....
.....
195	225	153	6,278	13,645	1,016	5,590
36	59	45	554	1,355	200	910
5	2	6	107	181	26	159
236	286	204	6,939	15,181	1,242	6,659

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO
SYSTEM—Continued

Municipality.....	Pictou	Port Hope	Prescott	Richmond	Russell
Population.....	3,410	4,577	2,850	419	P.V.
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	20,642.09	25,170.67	16,299.10	1,790.11	2,486.88
Commercial light service.....	14,849.30	12,345.72	9,492.85	1,470.18	1,489.13
Commercial power service.....	4,335.14	26,790.32	3,618.24		
Municipal power.....	1,589.41	1,381.76	1,176.35		
Street lighting.....	3,858.60	3,988.07	3,646.00	416.00	752.00
Merchandise.....	926.28				
Miscellaneous.....	1,736.09	1,386.56	314.83	19.50	112.95
Total earnings.....	47,936.91	71,063.10	34,547.37	3,695.79	4,840.96
EXPENSES					
Power purchased.....	35,972.35	52,684.38	22,483.10	2,167.44	2,444.13
Substation operation.....			1,344.74		
Substation maintenance.....					
Distribution system, operation and maintenance.....	2,023.72	1,420.85	3,548.61	90.21	213.98
Line transformer maintenance.....	40.60	20.66			
Meter maintenance.....	660.71	1,004.03	129.05		50.25
Consumers' premises expenses.....	764.24	445.95	303.49		
Street lighting, operation and maintenance.....	352.95	1,222.11	762.02	24.36	66.05
Promotion of business.....	806.13				
Billing and collecting.....	1,346.27	2,048.50	1,172.81		
General office, salaries and expenses.....	2,110.75	3,502.69	2,206.23	183.14	445.74
Undistributed expenses.....	469.02	938.47	325.22		
Truck operation and maintenance.....	464.85	292.50			
Interest.....				269.18	291.54
Sinking fund and principal payments on debentures.....				297.52	545.25
Depreciation.....	2,300.00	2,506.00	3,135.00	251.00	327.00
Other reserves.....					
Total operating costs and fixed charges.....	47,311.59	66,086.14	35,410.27	3,282.85	4,383.94
Net surplus.....	625.32	4,976.96		412.94	457.02
Net loss.....			862.90		
NUMBER OF CONSUMERS					
Domestic service.....	975	1,319	742	61	118
Commercial light service.....	195	213	176	28	35
Power service.....	33	39	20		
Total.....	1,203	1,571	938	89	153

“B”—Continued

Hydro Municipalities for Year Ended December 31, 1938

Smiths Falls 7,626	Stirling 938	Trenton 6,480	Tweed 1,256	Warkworth P.V.	Wellington 907	Westport 710	Whitby 3,706
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
43,924.81	4,906.62	29,248.48	5,637.58	1,910.51	5,837.98	3,380.56	22,465.80
15,573.64	3,299.13	19,261.14	4,934.43	1,255.59	2,391.24	3,243.79	11,879.36
22,218.20	1,292.28	53,096.36	2,821.75	.....	2,170.95	.....	13,286.42
343.85	380.56	1,809.53	248.01	.....	.....	.....	1,439.57
8,713.92	1,607.04	6,350.75	2,061.21	595.00	1,041.00	1,247.06	4,059.06
.....	145.16	195.68	407.31	.....	.....	.....	.....
2,748.32	346.20	919.46	259.51	143.51	256.70	159.27	3,351.04
93,522.74	11,976.99	110,881.40	16,369.80	3,904.61	11,697.87	8,030.68	56,481.25
51,042.66	6,730.27	77,729.13	9,651.00	2,676.70	6,765.06	4,228.88	34,149.39
436.40	150.50	.....	.....	.....	.....	.....	419.47
372.50	.....	69.49	.....	.....	.....	.....	.....
3,491.83	577.09	2,438.37	1,001.09	83.32	740.25	244.06	3,164.67
220.14	.....	157.39	4.55	.....	.....	.....	178.64
1,373.99	121.89	1,480.02	38.43	78.09	.....	3.38	586.41
2,455.77	.....	582.76	.....	.....	185.51	.....	1,113.25
746.70	260.49	710.80	217.46	36.95	107.83	107.50	702.94
1,323.51	.....	23.60	.....	.....	.....	.....	309.86
3,581.43	490.47	2,999.81	780.98	.....	.....	.....	1,474.45
3,084.74	1,104.14	5,538.87	841.23	201.51	592.96	856.97	2,167.08
440.31	48.01	1,744.59	279.61	.....	38.22	.....	163.42
1,134.38	188.04	731.11	124.56	.....	.....	29.42	.....
730.95	.....	2,597.78	421.32	502.37	529.46	621.62	1,452.40
4,737.27	.....	6,768.23	.....	296.77	876.88	593.17	2,873.67
6,826.00	899.00	4,933.00	549.00	253.00	845.00	252.00	3,576.00
500.00	.....	.....	144.00	.....	.....	.....	.....
82,498.58	10,569.90	108,504.95	14,053.23	4,128.71	10,681.17	6,937.00	52,331.65
11,024.16	1,407.09	2,376.45	2,316.57	.....	1,016.70	1,093.68	4,149.60
.....	.....	.....	.....	224.10	.....	.....	.....
1,806	296	1,417	302	137	316	106	899
278	83	262	94	43	67	51	164
44	12	52	13	.....	6	.....	21
2,128	391	1,731	409	180	389	157	1,084

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO
SYSTEM—Concluded

THUNDER BAY

Municipality.....	Williams- burg P.V.	Winchester	EASTERN ONTARIO SYSTEM SUMMARY	Fort William
Population.....		1,041		24,020
EARNINGS	\$ c.	\$ c.	\$ c.	\$ c.
Domestic service.....	2,239.66	5,925.51	1,542,078.82	196,286.31
Commercial light service.....	4,366.35	3,545.45	759,023.69	62,034.35
Commercial power service.....	126.08	1,315.25	847,288.06	37,991.12
Municipal power.....			70,913.38	25,864.22
Street lighting.....	240.00	944.00	248,062.20	18,872.14
Merchandise.....		51.75	9,083.09	
Miscellaneous.....	468.83	394.35	60,110.32	6,656.14
Total earnings.....	7,440.92	12,176.31	3,536,559.56	347,704.28
EXPENSES				
Power purchased.....	4,430.48	7,912.48	2,196,432.00	250,991.46
Substation operation.....			50,567.40	7,662.76
Substation maintenance.....			4,336.34	227.54
Distribution system, operation and maintenance.....	292.03	597.90	111,015.57	11,351.61
Line transformer maintenance.....			7,368.88	957.90
Meter maintenance.....	62.75	375.57	44,177.52	7,603.06
Consumers' premises expenses.....	199.14	130.26	40,532.76	2,020.26
Street lighting, operation and main- tenance.....	161.78	79.87	64,017.84	6,777.43
Promotion of business.....			24,112.00	12.96
Billing and collecting.....		590.73	102,738.69	12,705.65
General office, salaries and expenses...	704.71	298.55	131,185.62	5,410.52
Undistributed expenses.....			44,440.20	3,526.10
Truck operation and maintenance.....			12,845.09	1,564.98
Interest.....		259.18	99,957.91	13,530.67
Sinking fund and principal payments on debentures.....		514.52	106,983.15	7,943.17
Depreciation.....	266.00	699.00	226,373.00	15,213.00
Other reserves.....			26,110.13	1,889.74
Total operating costs and fixed charges.....	6,116.89	11,458.06	3,293,194.10	349,388.81
Net surplus.....	1,324.03	718.25	243,365.46	
Net loss.....				1,684.53
NUMBER OF CONSUMERS				
Domestic service.....	114	286	59,276	5,740
Commercial light service.....	62	78	9,322	917
Power service.....	1	3	1,320	117
Total.....	177	367	69,918	6,774

“B”—Concluded

Hydro Municipalities for Year Ended December 31, 1938

SYSTEM		NORTHERN ONTARIO PROPERTIES— SUDBURY DISTRICT				
Nipigon Twp.	Port Arthur 20,302	THUNDER BAY SYSTEM SUMMARY	Capreol 1,730	Sudbury 26,315	SUDBURY DISTRICT SUMMARY	ALL SYSTEMS GRAND SUMMARY
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
3,652.40	109,993.88	309,932.59	9,043.00	195,099.94	204,142.94	12,607,601.30
3,851.60	61,850.92	127,736.87	4,003.50	172,015.75	176,019.25	6,727,374.48
174.87	577,863.60	616,029.59	.....	40,145.25	40,145.25	10,527,631.36
461.87	34,503.15	60,829.24	735.77	11,429.80	12,165.57	1,677,069.34
649.00	19,602.26	39,123.40	1,530.00	21,183.98	22,713.98	1,813,555.27
.....	.....	.....	.....	.....	.....	26,588.18
.....	18,867.76	25,523.90	.....	2,984.10	2,984.10	602,012.80
8,789.74	822,681.57	1,179,175.59	15,312.27	442,858.82	458,171.09	33,981,832.73
.....
4,041.71	711,161.05	966,194.22	5,495.57	219,663.64	225,159.21	20,575,457.95
.....	23,363.10	31,025.86	.....	5,085.41	5,085.41	493,651.06
.....	1,399.28	1,626.82	.....	.....	.....	351,013.94
234.28	16,072.35	27,658.24	1,555.66	14,126.16	15,681.82	921,064.94
48.76	1,283.90	2,290.56	96.05	739.57	835.62	94,040.92
121.46	6,573.36	14,297.88	308.73	3,553.66	3,862.39	384,357.58
.....	.....	2,020.26	.....	461.15	461.15	483,012.96
32.08	5,945.85	12,755.36	394.85	5,909.82	6,304.67	373,065.44
.....	1,896.84	1,909.80	.....	.....	.....	309,626.97
.....	10,667.71	23,373.36	1,106.54	14,664.18	15,770.72	987,040.66
872.57	14,379.92	20,663.01	931.76	11,357.74	12,289.50	931,120.05
39.20	5,146.71	8,712.01	94.94	28,902.03	28,996.97	430,609.32
.....	2,006.19	3,571.17	.....	3,042.88	3,042.88	84,111.05
217.45	5,854.37	19,602.49	376.03	7,835.00	8,211.03	1,642,663.25
579.83	2,570.64	11,093.64	878.42	14,401.27	15,279.69	2,424,098.70
688.00	27,990.34	43,891.34	705.00	13,125.00	13,830.00	2,375,407.85
.....	3,500.00	5,389.74	65.23	15,000.00	15,065.23	76,121.61
6,875.34	839,811.61	1,196,075.76	12,008.78	357,867.51	369,876.29	32,936,464.25
1,914.40	.....	.....	3,303.49	84,991.31	88,294.80	1,045,368.48
.....	17,130.04	16,900.17	.....	.....	.....	.....
189	4,909	10,838	304	5,888	6,192	498,035
58	858	1,833	53	1,001	1,054	75,953
2	110	229	1	169	170	12,971
249	5,877	12,900	358	7,058	7,416	586,959

STATEMENT "C"

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita	
				\$ c.	\$ c.	\$ c.	
Acton.....	1,916	{ 134 5 2 8 61 1 1 4	{ 80 c.p. 80 c.p. 400 c.p. 60 watt 100 watt 150 watt 200 watt 300 watt	{ s s s m m m m m	{ 9.00 12.00 18.00 4.00 9.00 12.00 18.50 20.00	{ 1,971.81 1.03	
Agincourt.....		62	100 watt	m	12.00	744.00	**
Ailsa Craig.....	472	{ 63 3 1	{ 100 watt 100 watt (8 mos) 200 watt	{ m m m	{ 10.00 10.00 18.00	{ 668.00 1.42	
Alexandria.....	1,919	{ 137 1	{ 100 watt 200 watt	{ m m	{ 14.00 24.00	{ 1,936.00 1.01	
Alliston.....	1,340	{ 101 12	{ 150 c.p. 100 watt	{ s m	{ 17.50 17.50	{ 1,977.50 1.48	
Alvinston.....	650	{ 84 6	{ 100 watt 200 watt	{ m m	{ 20.00 29.00	{ 1,854.00 2.85	
Amherstburg....	2,869	{ 65 17 30 15	{ 100 c.p. 250 c.p. 200 watt 300 watt	{ s s m m	{ 13.00 28.00 18.00 28.00	{ 2,350.10 ††	
Ancaster Twp....		{ 32 49	{ 100 watt 150 watt	{ m m	{ 11.50 14.00	{ 1,054.00 **	
Apple Hill.....		33	100 watt	m	14.50	478.48	**
Arkona.....	406	{ 48 4	{ 100 watt 150 watt	{ m m	{ 20.00 28.00	{ 1,072.00 2.64	
Arthur.....	1,035	90	100 c.p.	s	16.50	1,485.00	1.43
Athens.....	691	{ 40 23	{ 100 watt 200 watt	{ m m	{ 12.00 25.00	{ 1,055.00 1.53	
Aylmer.....	1,998	{ 187 1 25 1	{ 100 watt 100 watt (7 mos.) 300 watt Traffic signal	{ m m m m	{ 10.00 10.00 25.00 40.00	{ 2,525.83 1.26	

NOTE: The "Cost to municipality in 1938" represents the charges billed to the municipality by the utility for street lighting service in the calendar year. This total charge differs in some cases from the total computed for the installation at the rates shown, for the following reasons:— FIRST: Certain equipment may have been in service for less than twelve months. SECOND: More equipment than shown for December 31 may have been in service earlier in the year.

**Population not shown in Government statistics. s Series system. m Multiple system.

††Certain additional street lighting costs for special service are paid direct in form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Ayr.....	755	{ 92 3	100 watt 500 watt	<i>m</i> <i>m</i> 10.00 36.00	1,028.00	1.36
Baden.....		79	100 watt	<i>m</i> 9.00	711.00	**
Barrie.....	8,135	{ 476 15 49 8 3	150 c.p. 100 watt 200 watt 200 watt (Dock) 200 watt (6 mos.)	<i>s</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i> 9.00 17.00 22.00 18.00 15.00	6,153.12	0.76
		13 1	300 watt (Monument) 500 watt	<i>m</i> <i>m</i> 25.00 30.00		
Bath.....	346	21	100 watt	<i>m</i> 25.00	525.00	1.52
Beachville.....		47	100 watt	<i>m</i> 11.00	517.00	**
Beamsville.....	1,121	{ 52 5 40 54	80 c.p. 60 watt 100 watt 200 watt	<i>s</i> <i>m</i> <i>m</i> <i>m</i> 8.00 8.00 12.00 18.00	1,896.77	1.69
Beaverton.....	949	{ 107 11 6	100 watt 100 watt (6 mos.) 500 watt	<i>m</i> <i>m</i> <i>m</i> 10.00 7.00 30.00	1,326.98	1.40
Beeton.....	555	{ 65 14	150 c.p. 100 watt	<i>s</i> <i>m</i> 16.00 16.00	1,264.00	2.28
Belle River.....	810	{ 78	100 watt Decorative lights	<i>m</i> <i>m</i> 12.00 50c. per 100 watts per month	994.50	1.23
Belleville.....	14,560	{ 566 19 52 3 189	100 c.p. 250 c.p. 1,000 c.p. 200 watt 300 watt	<i>s</i> <i>s</i> <i>s</i> <i>m</i> <i>m</i> 7.00 15.00 30.00 15.00 20.00	9,607.71	0.66
Blenheim.....	1,775	{ 165 3 12 1 1	150 c.p. 400 c.p. 600 c.p. Traffic light 500 watt (4 mos.)	<i>s</i> <i>s</i> <i>s</i> <i>m</i> <i>m</i> 12.00 28.00 37.00 16.00 33.00	2,535.00	1.43
Bloomfield.....	666	60	100 c.p.	<i>s</i> 11.00	660.00	0.99
Blyth.....	652	{ 90 20	100 watt 200 watt	<i>m</i> <i>m</i> 13.00 20.50	1,580.00	2.42
Bolton.....	567	{ 48 23	100 watt 200 watt	<i>m</i> <i>m</i> 12.00 21.50	1,063.52	1.88

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps		Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
					\$ c.	\$ c.	\$ c.
Bothwell.....	643	{ 69 21	100 watt 300 watt	<i>m</i> <i>m</i>	11.00 27.00	1,318.65	2.05
Bowmanville....	3,850	{ 181 19 28	100 c.p. 300 watt 500 watt	<i>s</i> <i>m</i> <i>m</i>	10.00 30.00 53.00	3,268.31	0.85
Bradford.....	988	{ 60 7	150 c.p. 100 watt	<i>s</i> <i>m</i>	16.00 16.00	1,072.00	1.09
Brampton.....	5,638	{ 676 2 46	100 watt 500 watt 500 watt (3 mos.)	<i>m</i> <i>m</i> <i>m</i>	8.00 35.00 38.50	5,667.08	1.01
Brantford.....	31,282	{ 149 3,453 8 2 18 4	1,500 c.p. 100 watt 250 watt 300 watt 750 watt 750 watt	<i>s</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i>	45.00 7.50 10.00 16.00 37.00 46.00	33,466.45	††
Brantford Twp..		373	100 watt	<i>m</i>	11.00	4,103.00	**
Brechin.....	‡	33	100 watt	<i>m</i>	14.00	468.70	**
Bridgeport.....		{ 57 12	100 watt 100 watt (bridge)	<i>m</i> <i>m</i>	11.00 8.00	723.00	**
Brigden.....		{ 46 21	60 watt 100 watt	<i>m</i> <i>m</i>	11.00 14.00	800.00	**
Brighton.....	1,366	137	100 c.p.	<i>s</i>	15.00	2,055.00	1.50
Brockville.....	9,983	{ 643 10 35 51 13	100 c.p. 200 watt orn. 3 lt. stands. 5 lt. stands. 300 watt	<i>s</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i>	10.00 19.00 21.00 24.00 20.00	8,764.00	0.88
Brussels.....	780	{ 81 18	100 watt 200 watt	<i>m</i> <i>m</i>	12.00 18.00	1,296.00	1.66
Burford.....		67	100 watt	<i>m</i>	10.00	670.08	**
Burgessville....		24	100 watt	<i>m</i>	13.00	312.00	**
Caledonia.....	1,410	{ 147 20 9 2 11	100 watt 100 watt (bridge) 100 watt (twp.) 200 watt 300 watt	<i>m</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i>	9.00 9.50 13.00 14.00 21.00	1,796.75	1.27
Campbellville...		20	100 watt	<i>m</i>	24.00	480.00	**

‡Includes Mara and Thorah townships.

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Certain additional street lighting costs for special service are paid direct in form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Cannington.....	764	{ 64 1 3 3	100 watt 200 watt 300 watt 500 watt	<i>m</i> <i>m</i> <i>m</i> <i>m</i> 15.00 18.50 22.00 32.00	1,122.98	1.47
Capreol.....	1,730	90	100 watt	<i>m</i> 17.00	1,530.00	0.88
Cardinal.....	1,529	{ 48 12	100 watt 200 watt	<i>m</i> <i>m</i> 15.00 21.00	962.00	0.63
Carleton Place..	4,278	{ 84 102 68	60 watt 200 watt 300 watt	<i>m</i> <i>m</i> <i>m</i> 13.00 20.00 25.00	4,814.54	1.13
Cayuga.....	664	{ 82 1	100 watt 150 watt	<i>m</i> <i>m</i> 18.00 20.00	1,474.50	2.22
Chatham.....	16,153	{ 720 19 42 35 75 137 2	150 c.p. 250 c.p. 600 c.p. 150 c.p. orn. 600 c.p. orn. 1,000 c.p. orn. 250 watt (floodlights)	<i>s</i> <i>s</i> <i>s</i> <i>s</i> <i>s</i> <i>s</i> <i>m</i> 13.00 16.00 31.00 12.00 30.00 38.00 24.00	19,240.76	††
Chatsworth.....	321	41	100 watt	<i>m</i> 15.00	615.00	1.92
Chesley.....	1,815	122	150 c.p.	<i>s</i> 12.00	1,457.00	0.80
Chesterville.....	1,068	{ 86	100 watt Decorative lights	<i>m</i> <i>m</i> 12.00 27.16	1,059.16	0.99
Chippawa.....	1,186	{ 92 19	100 watt 200 watt	<i>m</i> <i>m</i> 13.00 25.00	1,702.42	1.44
Clifford.....	446	{ 56 10	100 watt 200 watt	<i>m</i> <i>m</i> 13.00 20.00	901.31	2.02
Clinton.....	1,901	{ 146 8 29 1	150 c.p. 100 watt 300 watt 500 watt	<i>s</i> <i>m</i> <i>m</i> <i>m</i> 11.00 11.00 31.00 55.00	2,674.96	1.41
Cobden.....	621	{ 38 12	100 watt 150 watt	<i>m</i> <i>m</i> 15.00 23.50	852.00	1.37
Cobourg.....	5,125	{ 175 229 4 19	100 c.p. 100 watt 250 watt 500 watt	<i>s</i> <i>m</i> <i>m</i> <i>m</i> 12.00 12.00 23.00 47.50	5,768.56	1.13
Colborne.....	964	{ 120 5	60 c.p. 100 watt	<i>s</i> <i>m</i> 12.00 12.00	1,471.00	1.53
Coldwater.....	589	{ 50 19	100 watt 200 watt	<i>m</i> <i>m</i> 11.00 17.00	873.00	1.48

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STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps		Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
Collingwood....	5,478	423	150 c.p.	<i>s</i>	\$ c. 9.00	\$ c. 3,807.00	\$ c. 0.69
Comber.....		56	100 watt	<i>m</i>	12.00	672.00	**
Cookstown.....		57	150 c.p.	<i>s</i>	15.00	840.00	**
Cottam.....		32	100 watt	<i>m</i>	15.00	480.00	**
Courtright.....	334	43	100 watt	<i>m</i>	18.00	774.00	2.32
Creemore.....	632	62	100 watt	<i>m</i>	12.00	726.00	1.15
Dashwood.....		41	100 watt	<i>m</i>	11.00	451.00	**
Delaware.....		22	100 watt	<i>m</i>	12.00	264.00	**
Delhi.....	1,677	176	100 watt	<i>m</i>	12.00	1,228.75	0.73
Deseronto.....	1,300	137	100 c.p.	<i>s</i>	10.00	1,339.92	1.03
Dorchester.....		72	100 watt	<i>m</i>	10.00	714.84	**
Drayton.....	551	80	100 watt	<i>m</i>	12.00	960.00	1.74
Dresden.....	1,477	{ 109 20 12 15	{ 100 c.p. 400 c.p. 100 watt (bridge) 50 watt (arch)	{ <i>s</i> <i>s</i> <i>m</i> <i>m</i>	{ 13.00 21.50 12.00 4.56	1,979.86	1.34
Drumbo.....		{ 39 1	{ 100 watt 100 watt (6 mos.)	{ <i>m</i> <i>m</i>	{ 13.00 13.00	513.50	**
Dublin.....		50	100 watt	<i>m</i>	13.00	650.00	**
Dundalk.....	666	82	100 watt	<i>m</i>	15.00	1,230.00	1.85
Dundas.....	4,956	{ 291 12 54 6 20	{ 100 watt 200 watt 200 watt 200 watt orn. 100 watt Memorial square	{ <i>m</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i>	{ 12.00 16.00 32.00 26.00 Free	5,557.00	††
Dunnville.....	4,004	{ 257 27	{ 150 c.p. 1,000 c.p.	{ <i>s</i> <i>s</i>	{ 10.50 40.00	3,712.89	0.93
Durham.....	1,852	{ 106 6	{ 150 c.p. 400 c.p.	{ <i>s</i> <i>s</i>	{ 16.00 24.00	1,840.00	0.99
Dutton.....	807	114	100 watt	<i>m</i>	9.00	1,024.44	1.27
East York Twp..		{ 1 1,074 4 2 244 15	{ 60 watt 100 watt 200 watt 250 watt 300 watt 500 watt	{ <i>m</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i>	{ 7.80 13.00 19.50 22.75 26.00 29.00	19,924.57	**

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STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Elmira.....	2,069	{ 191 8 1	100 watt <i>m</i> 200 watt <i>m</i> 500 watt <i>m</i>	9.00 12.00 28.00	1,843.00	0.89
Elmvale.....		60	100 watt <i>m</i>	12.00	718.00	**
Elmwood.....		23	150 watt <i>m</i>	21.00	475.19	**
Elora.....	1,149	{ 82 27	100 watt <i>m</i> 200 watt <i>m</i>	13.00 19.00	1,651.60	1.44
Embro.....	428	56	100 watt <i>m</i>	12.00	669.00	1.56
Erieau.....	273	24	100 watt <i>m</i>	18.00	432.00	1.58
Essex.....	1,833	{ 133 15 3 48 1 13 6	60 watt <i>m</i> 100 watt <i>m</i> 200 watt <i>m</i> 300 watt orn. <i>m</i> 500 watt orn. <i>m</i> Empty sockets orn. <i>m</i> Empty sockets <i>m</i>	7.50 10.00 14.00 18.00 28.00 1.50 4.50	2,115.35	††
Etobicoke Twp..		{ 1,051 22 2 2	100 watt <i>m</i> 100 watt <i>m</i> 250 watt <i>m</i> 25 watt <i>m</i>	13.50 18.00 16.00 13.50 per 100 watts	14,318.74	**
Exeter.....	1,652	{ 3 174 32	100 watt (Park) <i>m</i> 100 watt <i>m</i> 300 watt <i>m</i>	8.50 9.50 33.00	2,734.50	1.66
Fergus.....	2,785	{ 155 20 22 4	100 watt <i>m</i> 150 watt <i>m</i> 300 watt orn. <i>m</i> Traffic lights <i>m</i>	12.00 14.50 27.50 18.00	2,578.62	0.93
Finch.....	371	38	100 watt <i>m</i>	12.00	456.00	1.23
Flesherton.....	447	{ 53 1	100 watt <i>m</i> 300 watt <i>m</i>	11.00 26.00	609.00	1.36
Fonthill.....	829	{ 69 12	100 watt <i>m</i> 300 watt <i>m</i>	15.00 27.00	1,163.00	1.40
Forest.....	1,502	{ 102 147 3	60 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> (Station platform)	7.00 11.00 18.00	2,385.50	1.59
Forest Hill.....	10,208	{ 518 3 6 5	100 watt <i>m</i> 300 watt <i>m</i> 300 watt <i>m</i> 400 watt <i>m</i>	12.00 27.00 38.00 61.00	6,218.45	0.61

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STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Fort William....	24,020	{ 374	100 c.p.	<i>s</i> 8.00	18,872.14	0.79
		{ 58	400 c.p.	<i>s</i> 18.00		
		{ 78	600 c.p.	<i>s</i> 28.00		
		{ 229	1,000 c.p.	<i>s</i> 38.00		
		{ 187	100 watt	<i>m</i> 8.00		
		{ 114	300 watt	<i>m</i> 23.00		
Galt.....	14,410	{ 979	100 c.p.	<i>s</i> 9.00	16,283.92	1.13
		{ 294	100 watt	<i>m</i> 6.50		
		{ 100	100 watt	<i>m</i> 8.00		
		{ 26	100 watt	<i>m</i> 9.00		
		{ 22	100 watt	<i>m</i> 16.00		
		{ 18	150 watt (bridge)	<i>m</i> 8.50		
		{ 33	150 watt	<i>m</i> 9.00		
		{ 40	150 watt	<i>m</i> 18.00		
		{ 31	150 watt	<i>m</i> 21.00		
		{ 4	300 watt	<i>m</i> 16.50		
		{ 80	300 watt	<i>m</i> 17.00		
Georgetown†....	2,325	{ 157	100 watt	<i>m</i> 11.00	2,669.02
		{ 1	300 watt	<i>m</i> 19.00		
		{ 21	(floodlight) 300 watt	<i>m</i> 30.00		
Glencoe.....	810	{ 113	100 watt	<i>m</i> 14.00	1,962.00	2.42
		{ 19	200 watt	<i>m</i> 20.00		
Goderich.....	4,488	{ 327	100 c.p.	<i>s</i> 9.00	4,521.50	1.01
		{ 3	100 c.p. (6 mos.)	<i>s</i> 9.00		
		{ 8	100 watt	<i>m</i> 15.00		
		{ 7	400 watt	<i>m</i> 35.00		
		{ 4	250 watt	<i>m</i> 18.00		
		{ 8	500 watt	<i>m</i> 37.00		
Grand Valley...	600	{ 39	100 watt	<i>m</i> 12.00	884.00	1.47
		{ 13	300 watt	<i>m</i> 32.00		
Granton.....		37	100 watt	<i>m</i> 10.00	370.00	**
Gravenhurst....	2,052	{ 134	100 c.p.	<i>s</i> 10.00	2,092.98	1.02
		{ 22	50 watt	<i>m</i> 7.50		
		{ 10	50 watt (6 mos.)	<i>m</i> 4.00		
		{ 2	100 watt	<i>m</i> 10.00		
		{ 8	100 watt (6 mos.)	<i>m</i> 6.00		
		{ 16	300 watt	<i>m</i> 30.00		
Guelph.....	21,333	{ 10	50 watt	<i>m</i> 4.00	18,786.56	0.88
		{ 6	60 watt	<i>m</i> 4.00		
		{ 1,382	100 watt	<i>m</i> 10.00		
		{ 172	200 watt	<i>m</i> 12.50		
		{ 43	300 watt	<i>m</i> 18.75		
		{ 9	500 watt	<i>m</i> 25.00		
Hagersville.....	1,307	{ 53	500 watt (220V.)	<i>m</i> 34.00	2,050.00	1.57
		{ 115	100 watt	<i>m</i> 14.00		
		{ 20	300 watt	<i>m</i> 22.00		

**Population not shown in Government statistics. *S*Series system. *m*Multiple system.

†Includes Glen Williams.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita	
				\$ c.	\$ c.	\$ c.	
Hamilton.....	153,527	{ 6	40 watt	<i>m</i>	4.50	123,718.67	0.81
		96	50 watt	<i>m</i>	6.00		
		8,280	100 watt	<i>m</i>	7.50		
		1,170	200 watt	<i>m</i>	11.00		
		5	300 watt	<i>m</i>	18.00		
		28	300 watt	<i>m</i>	26.00		
		77	300 watt	<i>m</i>	32.00		
		27	300 watt	<i>m</i>	34.00		
		480	500 watt	<i>m</i>	32.00		
		599	500 watt	<i>m</i>	37.00		
		65	750 watt	<i>m</i>	55.00		
		2	1,000 watt	<i>m</i>	70.00		
Hanover.....	3,191	{ 3	Danger signals	<i>m</i>	28.00	2,988.00	0.94
		2	1,200 watt stands.	<i>m</i>	70.00		
		{ 97	150 c.p.	<i>s</i>	22.00		
		29	300 c.p.	<i>s</i>	27.00		
		4	100 watt	<i>m</i>	22.00		
Harriston.....	1,266	{ 13	200 watt	<i>m</i>	27.00	1,606.50	1.27
			Decorative lighting	<i>m</i>	5.71		
					per month		
		{ 79	150 c.p.	<i>s</i>	12.00		
		4	100 watt	<i>m</i>	12.00		
Harrow.....	984	{ 13	150 watt	<i>m</i>	13.50	1,332.00	1.35
		29	200 watt	<i>m</i>	15.00		
		{ 1	100 watt	<i>m</i>	12.00		
Hastings.....	762	{ 80	200 watt	<i>m</i>	16.50	1,271.39	1.67
		{ 64	100 watt	<i>m</i>	16.00		
		8	200 watt	<i>m</i>	20.00		
Havelock.....	1,164	{	Decorative lights		87.39	1,497.00	1.29
		{ 63	100 c.p.	<i>s</i>	13.00		
		23	250 c.p.	<i>s</i>	24.00		
Hensall.....	680	84	100 watt	<i>m</i>	12.00	1,008.00	1.48
Hespeler.....	2,810	{ 91	150 c.p.	<i>s</i>	12.00	3,112.33	1.11
		35	250 c.p.	<i>s</i>	16.00		
		15	400 c.p. stands	<i>s</i>	30.00		
		51	150 watt	<i>m</i>	11.00		
		10	300 watt	<i>m</i>	21.50		
		7	300 watt	<i>m</i>	35.00		
Highgate.....	349	{	stands—Park			567.00	1.62
		{ 40	100 watt	<i>m</i>	11.00		
		6	200 watt	<i>m</i>	17.00		
Holstein.....	{ 1	300 watt	<i>m</i>	25.00	350.00	**
		15	100 watt	<i>m</i>	25.00		
Humberstone...	2,629	{ 107	100 watt	<i>m</i>	12.50	1,617.50	0.62
		16	200 watt	<i>m</i>	17.50		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Huntsville.....	2,707	{ 4 52 10 68 34	{ 100 c.p. 150 c.p. 250 c.p. 75 watt 500 watt	{ s s s m m 12.00 16.00 20.00 10.00 30.00	2,780.00	1.03
Ingersoll.....	5,177	{ 334 2 26 2 13 12	{ 100 c.p. 600 c.p. 1,000 c.p. 1,000 c.p. (church) 100 c.p. (6 mos.) 300 watt	{ s s s s s m 10.00 28.00 35.00 25.00 5.50 30.00	4,727.36	††
Jarvis.....	505	78	100 watt	m 11.00	858.00	1.70
Kemptville.....	1,204	{ 77 17 1	{ 100 watt 150 watt 250 watt	{ m m m 18.00 21.00 25.00	1,768.00	1.47
Kincardine.....	2,458	{ 158 5 30 37 1	{ 150 c.p. 100 watt (6 mos.) 100 watt 200 watt 1,000 watt	{ s m m m m 20.00 15.00 15.00 25.00 85.00	4,627.50	1.88
Kingston.....	24,331	{ 105 1 266 258	{ 100 c.p. 250 c.p. 600 c.p. 600 c.p.	{ s s s s 12.00 25.00 35.00 46.00	22,456.17	0.92
Kingsville.....	2,363	{ 112 25 125	{ 150 c.p. 250 c.p. 100 watt	{ s s m 10.50 15.00 10.50	2,852.99	††
Kirkfield.....		24	100 watt	m 20.00	480.00	**
Kitchener.....	32,550	{ 2,070 160 18 47 212 458 58 109	{ 80 c.p. 250 c.p. 1,000 c.p. 16 c.p. Fire alarms 100 watt 200 watt 300 watt 500 watt	{ s s s s m m m m 9.00 13.00 25.00 7.00 9.00 15.00 17.50 25.00	33,584.06	††
Lakefield.....	1,332	113	100 watt	m 15.00	1,732.44	1.30
Lambeth.....		{ 11 20	{ 100 watt 300 watt	{ m m 11.00 31.00	734.22	**
Lanark.....	702	39	100 watt	m 15.00	585.00	0.83
Lancaster.....	588	{ 41 1	{ 100 watt 200 watt	{ m m 20.00 30.00	850.00	1.45

**Population not shown in Government statistics. s Series system. m Multiple system.

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STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
La Salle.....	812	{ 67 65	100 watt (9 mos.) <i>m</i> Empty sockets <i>m</i> (3 mos.)	{ 12.00 5.00	630.08	0.78
Leamington.....	5,446	{ 176 3 184 1	250 c.p. <i>s</i> 400 c.p. <i>s</i> 100 watt <i>m</i> 200 watt <i>m</i>	{ 15.00 19.00 14.00 18.00	5,440.42	††
Lindsay.....	7,294	{ 420 25 2	100 c.p. <i>s</i> 1,000 c.p. <i>s</i> 1,000 c.p.(cenotaph) <i>s</i>	{ 11.50 60.00 60.00	6,439.44	0.88
Listowel.....	2,826	{ 310 8 30	100 watt <i>m</i> 200 watt <i>m</i> 500 watt <i>m</i>	{ 11.00 25.00 35.00	4,513.71	††
London.....	74,281	{ 8 1,546 116 236 33 169 2 528 6 43 4 12 64 607 40 126 46	150 c.p. <i>s</i> 150 c.p. <i>s</i> 400 c.p. <i>s</i> 400 c.p. <i>s</i> 600 c.p. <i>s</i> 600 c.p. <i>s</i> 50 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> 150 watt <i>m</i> 200 watt <i>m</i> 200 watt <i>m</i> 300 watt <i>m</i> 300 watt <i>m</i> 500 watt <i>m</i> 500 watt <i>m</i>	{ 10.00 11.00 18.00 24.00 28.00 30.00 5.00 10.00 11.00 14.00 12.00 9.34 14.00 18.00 20.00 35.00 40.00	55,505.78	††
London Twp.....		{ 63 6 1 10 1	100 watt <i>m</i> 100 watt (4 mos.) <i>m</i> 200 watt <i>m</i> 300 watt <i>m</i> 300 watt (4 mos.) <i>m</i>	{ 12.00 21.50 16.50 30.00 31.00	1,125.85	**
Long Branch....	4,029	{ 197 113	100 watt <i>m</i> 200 watt <i>m</i>	{ 13.00 17.50	4,415.09	1.10
Lucan.....	614	70	100 watt <i>m</i>	14.00	979.98	1.60
Lucknow.....	1,036	{ 63 17	100 watt <i>m</i> 200 watt <i>m</i>	{ 21.00 31.00	1,850.00	1.79
Lynden.....		44	100 watt <i>m</i>	10.00	440.00	**
Madoc.....	1,210	{ 400 63	25 watt <i>m</i> 100 watt <i>m</i>	{ 3.00 5.00	1,500.00	1.24
Markdale.....	781	90	150 c.p. <i>s</i>	10.00	905.50	1.16

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Certain additional street lighting costs for special service are paid direct in form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
Markham.....	1,116	119	100 watt <i>m</i>	\$ c. 12.00	\$ c. 1,428.00	\$ c. 1.28
Marmora.....	1,014	{ 44 24 19	75 watt <i>m</i> 100 watt <i>m</i> 150 watt <i>m</i>	{ 13.00 16.00 18.00	1,298.00	1.28
Martintown.....		15	100 watt <i>m</i>	13.00	195.00	**
Maxville.....	758	66	150 c.p. <i>s</i>	18.00	1,188.00	1.57
Meaford.....	2,719	{ 188 28 35	150 c.p. <i>s</i> 100 watt <i>m</i> 200 watt <i>m</i>	{ 11.00 11.00 19.00	3,008.95	1.11
Merlin.....		{ 46 1	100 watt <i>m</i> Decorative string	{ 15.00 51c. per 100 watts per month	691.01	**
Merritton.....	2,644	{ 310 26	100 watt <i>m</i> 200 watt <i>m</i>	{ 9.00 21.00	3,336.00	1.26
Midland.....	6,669	{ 328 52 8 30 36	150 c.p. <i>s</i> 100 watt <i>m</i> ‡300 watt (6 mos.) <i>m</i> 300 watt <i>m</i> 500 watt <i>m</i>	{ 11.00 11.00 12.00 22.00 40.00	6,376.00	0.96
Mildmay.....	746	{ 46 11	100 watt <i>m</i> 150 watt <i>m</i>	{ 10.00 16.00	666.00	0.89
Milton.....	1,791	{ 125 25	100 watt <i>m</i> 300 watt <i>m</i>	{ 9.50 30.00	1,937.52	1.08
Milverton.....	1,006	{ 99 12	100 watt <i>m</i> 200 watt <i>m</i>	{ 9.00 12.00	1,033.50	1.03
Mimico.....	6,940	{ 325 81 89	100 watt <i>m</i> 200 watt <i>m</i> 300 watt <i>m</i>	{ 12.00 20.00 26.00	7,604.21	1.10
Mitchell.....	1,607	{ 196 27	150 c.p. <i>s</i> 300 watt <i>m</i>	{ 9.00 29.00	2,547.00	1.58
Moorefield.....		25	100 watt <i>m</i>	14.00	350.00	**
Mount Brydges.....		{ 47 1 17	100 watt <i>m</i> 200 watt <i>m</i> 200 watt orn. <i>m</i>	{ 10.00 17.00 21.00	672.23	**
Mount Forest...	1,946	{ 120 37 39 3	150 c.p. <i>s</i> 100 watt <i>m</i> 150 watt <i>m</i> 300 watt <i>m</i>	{ 10.00 10.00 13.00 28.00	2,161.00	1.11

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

‡Dock Lights owned by Dominion Government.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Napanee.....	3,018	{ 155 2 2 40 5 21	100 watt <i>m</i> 250 watt <i>m</i> 250 watt <i>m</i> 300 watt <i>m</i> 300 watt stands. <i>m</i> 400 watt clusters <i>m</i>	12.00 28.00 30.00 34.00 27.00 36.00	4,215.00	1.40
Neustadt.....	441	39	150 c.p. <i>s</i>	20.00	780.00	1.77
Newbury.....	279	47	100 watt <i>m</i>	15.00	705.00	2.53
Newcastle.....	690	{ 51 2	60 watt <i>m</i> 100 watt <i>m</i>	14.00 17.00	738.68	1.07
New Hamburg..	1,441	{ 165 61	100 watt <i>m</i> 200 watt <i>m</i>	9.00 12.00	2,217.00	1.54
New Toronto...	7,095	{ 114 8 16 126 14 101 3	75 watt <i>m</i> 150 watt <i>m</i> 200 watt <i>m</i> 300 watt <i>m</i> 300 watt <i>m</i> 300 watt <i>m</i> 1,000 watt (floodlight) <i>m</i>	13.00 15.50 17.00 24.00 22.00 21.00 52.00	7,446.51	1.05
Niagara Falls...	18,747	{ 838 13 63 235 196 1	100 c.p. <i>s</i> 250 c.p. <i>s</i> 600 c.p. <i>s</i> 600 c.p. orn. <i>s</i> 1,000 c.p. orn. <i>s</i> 100 watt <i>m</i>	11.00 13.00 18.00 37.00 42.00 11.00	27,492.57	1.47
Niagara-on-the-Lake	1,651	{ 200 13 49	100 watt <i>m</i> 200 watt <i>m</i> 300 watt <i>m</i>	11.00 18.00 20.00	3,231.42	1.96
Nipigon.....		{ 31 9	100 watt <i>m</i> 200 watt <i>m</i>	13.00 24.00	649.00	**
North York Twp.....		{ 81 20 32 12 2 10 1 1 65 1 1 2 1 1 1	100 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> 100 watt <i>m</i> 200 watt <i>m</i> 400 watt (floodlight) <i>m</i> 400 watt (mercury) <i>m</i> 1,000 watt (floodlight) <i>m</i> 100 watt (Police sign) <i>m</i> Traffic light <i>m</i> Traffic light <i>m</i>	12.00 13.00 13.50 15.00 15.50 16.50 17.70 18.00 23.00 31.00 43.00 65.00 12.00 8.00 30.00	3,974.06	**

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
Norwich.....	1,212	{ 113 28	100 watt <i>m</i> 400 watt <i>m</i>	\$ c. 10.00 35.00	\$ c. 2,105.00	\$ c. 1.74
Norwood.....	716	{ 77 10	100 c.p. <i>s</i> 250 c.p. <i>s</i>	18.00 21.00	1,581.00	2.21
Oil Springs.....	470	{ 41 1	100 watt <i>m</i> 300 watt (6 mos.) <i>m</i>	18.00 30.00	768.00	1.63
Omeme.....	598	{ 49 10 10	100 c.p. <i>s</i> 100 watt <i>m</i> 250 watt <i>m</i>	14.00 12.50 28.00	1,013.70	1.70
Orangeville.....	2,479	{ 98 50 38	150 c.p. <i>s</i> 250 c.p. <i>s</i> 300 watt <i>m</i>	11.00 17.00 24.00	2,979.48	1.20
Oshawa.....	24,844	{ 857 51 112 30 1	100 c.p. <i>s</i> 100 watt <i>m</i> 150 watt <i>m</i> 200 watt <i>m</i> 500 watt <i>m</i>	11.00 12.00 13.00 18.00 27.00	12,040.66	0.48
Ottawa.....	142,852	{ 352 865 885 59 771 2,940	100 c.p. <i>s</i> 400 c.p. <i>s</i> 600 c.p. <i>s</i> Arcs <i>s</i> 100 watt <i>m</i> (Driveway) <i>m</i> 100 watt <i>m</i> (White way)	7.00 25.00 35.00 45.00 6.00 48c. per foot	78,283.99	0.55
Otterville.....		{ 57 13	100 watt <i>m</i> 200 watt <i>m</i>	11.00 16.00	844.18	**
Owen Sound....	13,118	{ 447 339 14 46	150 c.p. <i>s</i> 400 c.p. <i>s</i> 600 c.p. <i>s</i> 1,000 c.p. <i>s</i>	13.00 16.00 23.00 37.00	13,476.58	1.03
Paisley.....	773	90	100 watt <i>m</i>	14.00	1,260.00	1.63
Palmerston.....	1,410	{ 66 1 11 25 9 4 19 1 32	80 c.p. <i>s</i> 400 c.p. <i>s</i> 60 watt <i>m</i> 100 watt <i>m</i> 150 watt <i>m</i> 250 watt <i>m</i> 300 watt <i>m</i> 500 watt <i>m</i> 300 watt stands <i>m</i>	9.00 25.00 9.00 10.00 10.00 25.00 25.00 35.00 30.00	2,628.00	1.86
Paris.....	4,325	{ 477 10 34 2	100 c.p. <i>s</i> 400 watt <i>m</i> 500 watt <i>m</i> 60 watt <i>m</i> Decorative lights <i>m</i>	8.50 28.00 35.00 7.00 50.00	5,586.50	1.29

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita	
				\$ c.	\$ c.	\$ c.	
Parkhill.....	997	{ 88 15	100 watt 200 watt	<i>m</i> <i>m</i>	14.00 23.00	1,577.04	1.58
Penetanguishene	4,177	{ 191 3 4	150 c.p. 200 watt 300 watt	<i>s</i> <i>m</i> <i>m</i>	11.00 15.00 20.00	2,226.00	0.53
Perth.....	4,183	{ 82 14 7 19	100 c.p. 250 c.p. 400 c.p. 600 c.p.	<i>s</i> <i>s</i> <i>s</i> <i>s</i>	17.00 27.00 30.00 45.00	2,569.50	0.61
Peterborough...	23,450	{ 122 373 607 85	60 watt 100 watt 300 watt 300 watt orn.	<i>m</i> <i>m</i> <i>m</i> <i>m</i>	12.00 13.00 20.00 45.00	22,246.84	0.95
Petrolia.....	2,711	{ 151 24	150 c.p. 600 c.p.	<i>s</i> <i>s</i>	12.00 43.00	2,822.00	1.04
Picton.....	3,410	{ 321 43	100 c.p. 250 c.p.	<i>s</i> <i>s</i>	9.00 15.00	3,858.60	1.13
Plattsville.....		34	100 watt	<i>m</i>	12.00	408.00	**
Point Edward...	1,161	{ 100 15	150 c.p. 250 c.p.	<i>s</i> <i>s</i>	13.00 20.00	1,599.96	1.38
Port Arthur.....	20,302	{ 2,709 232 208	100 watt 300 watt 500 watt	<i>m</i> <i>m</i> <i>m</i>	5.00 10.00 15.00	19,602.26	0.97
Port Colborne...	6,348	{ 15 78 227 34 34 132	400 c.p. 600 c.p. 100 watt 100 watt (9 mos.) 100 watt (3 mos.) 200 watt	<i>s</i> <i>s</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i>	25.00 30.00 12.00 14.00 12.00 18.00	8,282.98	††
Port Credit.....	1,751	275	100 watt	<i>m</i>	10.00	2,750.00	1.57
Port Dalhousie..	1,565	{ 129 2	100 watt 200 watt	<i>m</i> <i>m</i>	12.00 15.00	1,578.00	1.01
Port Dover.....	1,640	{ 201 15 34 4 236	100 watt 300 watt 100 watt (Summer) 300 watt (Summer) 25 watt (Decorative)	<i>m</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i> <i>m</i>	10.00 18.00 6.00 10.00 67c. per 100 watts per month	2,682.12	1.64

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STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Port Elgin.....	1,293	{ 114 120 175 194 26	100 watt (6 mos.) <i>m</i> 100 watt (2 mos.) <i>m</i> 100 watt (2 mos.) <i>m</i> 100 watt (2 mos.) <i>m</i> 200 watt <i>m</i>	14.00 14.00 14.00 14.00 22.00	2,518.04	1.95
Port Hope.....	4,577	398	100 c.p. <i>s</i>	10.00	3,988.07	0.87
Port McNicoll...	911	{ 64 18	100 watt <i>m</i> 200 watt <i>m</i>	10.00 18.00	964.00	1.06
Port Perry.....	1,118	{ 94 10	100 watt <i>m</i> 300 watt <i>m</i>	15.00 30.00	1,433.75	1.28
Port Rowan....	659	55	100 watt <i>m</i>	15.00	825.00	1.25
Port Stanley....	741	217	100 watt <i>m</i>	11.00	2,387.08	3.22
Prescott.....	2,850	{ 215 88	100 watt <i>m</i> 200 watt <i>m</i>	10.00 17.00	3,646.00	1.28
Preston.....	6,415	{ 135 215 9 40 6	150 c.p. <i>s</i> 100 watt <i>m</i> 250 watt <i>m</i> 500 watt <i>m</i> 500 watt stands <i>m</i>	11.00 11.00 20.00 32.00 35.00	5,519.08	0.86
Priceville.....		14	100 watt <i>m</i>	40.00	560.00	**
Princeton.....		39	100 watt <i>m</i>	12.00	468.00	**
Queenston.....		19	100 watt <i>m</i>	16.00	304.32	**
Richmond.....	419	26	100 watt <i>m</i>	16.00	416.00	0.99
Richmond Hill..	1,241	{ 100 19 9	75 watt <i>m</i> 100 watt <i>m</i> 200 watt <i>m</i>	11.00 12.00 16.00	1,472.00	1.19
Ridgetown.....	1,956	{ 177 1 87 17 2 2 20	150 c.p. <i>s</i> 1,000 c.p. <i>s</i> 100 watt <i>m</i> 200 watt <i>m</i> 200 watt orn. <i>m</i> 250 watt <i>m</i> 500 watt <i>m</i>	8.50 38.00 8.50 16.00 16.00 18.00 33.00	3,142.94	††
Ripley.....	432	{ 43 6	100 watt <i>m</i> 200 watt <i>m</i>	20.00 35.00	1,070.00	2.48
Riverside.....	5,090	{ 282 74	75 watt <i>m</i> 150 watt <i>m</i>	9.00 13.00	3,302.54	††
Rockwood.....		87	100 watt <i>m</i>	9.00	783.00	**
Rodney.....	722	{ 69 23	100 watt <i>m</i> 300 watt <i>m</i>	10.00 30.00	1,233.00	1.71

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STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
Rosseau.....	300	47	100 watt <i>m</i>	\$ c. 30.00	\$ c. 1,102.50	\$ c. 3.68
Russell.....		47	100 watt <i>m</i>	16.00	752.00	**
St. Catharines...	27,426	2,330	100 watt <i>m</i>	8.00	26,553.75	††
		19	100 watt orn. <i>m</i>	10.00		
		153	200 watt <i>m</i>	11.00		
		72	200 watt orn. <i>m</i>	20.00		
		4	300 watt orn. <i>m</i>	30.00		
		5	500 watt <i>m</i>	20.00		
		102	500 watt orn. <i>m</i>	34.00		
		17	500 watt (bridge) <i>m</i>	20.00		
		11	1,000 watt <i>m</i>	40.00		
St. George.....		39	100 watt <i>m</i>	10.00	428.00	**
		1	750 watt <i>m</i>	38.00		
St. Jacobs.....		46	100 watt <i>m</i>	10.00	460.00	**
St. Marys.....	4,017	235	100 c.p. <i>s</i>	11.00	4,992.75	1.24
		106	250 c.p. <i>s</i>	14.00		
		19	150 watt <i>m</i>	12.00		
		32	300 watt <i>m</i>	22.00		
St. Thomas.....	16,208	1,101	100 c.p. <i>s</i>	9.00	14,834.16	††
		28	250 c.p. <i>s</i>	13.00		
		1	600 c.p. <i>s</i>	32.00		
		114	600 c.p. <i>s</i>	34.00		
		6	60 watt (5 mos.) <i>m</i>	3.00		
		6	60 watt <i>m</i>	4.50		
		26	100 watt (5 mos.) <i>m</i>	5.00		
		2	100 watt <i>m</i>	10.00		
		3	200 watt (5 mos.) <i>m</i>	10.00		
		22	300 watt <i>m</i>	22.00		
Sarnia.....	18,155	1,062	150 c.p. <i>s</i>	12.00	19,217.96	††
		54	250 c.p. <i>s</i>	16.50		
		72	400 c.p. <i>s</i>	22.00		
		77	600 c.p. <i>s</i>	35.00		
		14	600 c.p. <i>s</i>	45.00		
		7	100 watt <i>m</i>	12.00		
		8	150 watt <i>m</i>	16.50		
		5	250 watt <i>m</i>	22.00		
		14	300 watt <i>m</i>	32.00		
Scarboro Twp....		207	100 c.p. <i>s</i>	12.00	15,154.61	**
		10	Empty sockets <i>s</i>	9.00		
		2	250 c.p. <i>s</i>	17.00		
		19	40 watt <i>m</i>	12.00		
		2	60 watt <i>m</i>	18.00		
		446	100 watt <i>m</i>	12.00		
		22	Empty sockets <i>m</i>	9.00		
		9	200 watt <i>m</i>	17.00		
		10	200 watt <i>m</i>	21.00		
		194	300 watt <i>m</i>	24.00		
		5	300 watt <i>m</i>	26.00		
		122	Empty sockets <i>m</i>	14.50		

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STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Seaforth.....	1,708	{ 123 19 16	100 c.p. s 300 watt m 300 watt orn. m	10.50) 25.00 29.00)	2,230.50	1.31
Shelburne.....	1,099	96	150 c.p. s	9.00	864.00	0.79
Simcoe.....	5,826	{ 280 9 12 27 9 8 6 1 1	100 c.p. s 250 c.p. s 400 c.p. s 1,000 c.p. s 150 watt m 200 watt m 200 watt orn. m 500 watt m 1,000 watt m	11.00) 15.00 18.00 40.00 11.00 15.00 24.00 53.00 60.00)	4,789.77	††
Smiths Falls....	7,626	{ 18 101 2 267	60 watt m 100 watt m 200 watt m 300 watt m	9.50) 18.00 25.00 25.00)	8,713.92	1.14
Southampton...	1,202	{ 103 52 39 1	100 watt m 250 watt m 60 watt (3 mos.) m Decorative string m	13.00) 18.00 12.00 36.00)	2,298.81	1.91
Springfield.....	378	53	100 watt m	11.00	583.00	1.54
Stamford Twp.	866		100 watt m	9.00	7,765.50	**
Stayner.....	1,034	{ 80 20	100 c.p. s 200 watt m	12.00) 18.00)	1,320.00	1.28
Stirling.....	938	{ 27 80 2 15	100 c.p. s 150 watt m 300 watt m 500 watt m	10.00) 10.00 24.75 32.50)	1,607.04	1.71
Stouffville.....	1,115	127	100 watt m	12.00	1,524.00	1.37
Stratford.....	17,615	{ 872 78 116 6 63 4 4	100 c.p. s 600 c.p. s 600 c.p. s 600 c.p. s 1,000 c.p. s 100 watt m 500 watt m	10.00) 25.00 30.00 35.00 34.00 10.00 34.00)	16,635.47	0.94
Strathroy.....	2,947	{ 301 21 17	100 c.p. s 250 c.p. s 600 watt m	9.00) 15.00 62.00)	4,068.21	1.38
Streetsville.....	672	{ 42 28 13	100 watt m 200 watt m 300 watt m	9.50) 11.50 16.50)	935.50	1.39

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STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Sudbury.....	26,315	{ 753	100 c.p. s	12.00	21,183.98	0.81
		{ 62	250 c.p. s	16.00		
		{ 10	600 c.p. s	28.00		
		{ 42	600 c.p. stands s	50.00		
		{ 10	1,000 c.p. s	35.00		
		{ 43	1,000 c.p. stands s	57.00		
		{ 45	1,500 c.p. s	65.00		
Sunderland.....		{ 29	100 watt m	20.00	720.00	**
		{ 4	500 watt m	38.00		
Sutton.....	852	{ 119	100 watt m	13.00	2,047.30	2.40
		{ 25	200 watt m	17.00		
		{ 38	Decorative strings (3 mos.) m	13.00		
Swansea.....	5,831	{ 207	100 watt m	12.00	3,599.04	0.62
		{ 59	200 watt m	19.00		
Tara.....	472	{ 51	100 watt m	13.00	1,301.00	2.76
		{ 16	300 watt m	34.00		
Tavistock.....	1,037	{ 83	100 watt m	10.00	1,317.96	1.27
		{ 39	200 watt m	12.00		
Tecumseh.....	2,245	{ 18	400 c.p. s	24.00	1,366.35	††
		{ 67	100 watt m	14.00		
Teeswater.....	838	{ 42	150 c.p. s	15.00	1,294.00	1.54
		{ 20	300 c.p. s	29.00		
		{ 80	25 watt (7 mos.) m	60c. per 100 watts per month		
Thamesford.....		48	100 watt m	11.00	528.00	**
Thamesville....	814	{ 69	100 watt m	9.00	1,235.37	1.52
		{ 33	200 watt m	14.00		
		{ 7	200 watt orn. m	18.00		
Thedford.....	593	70	100 watt m	15.00	1,037.50	1.75
Thorndale.....		32	100 watt m	12.00	384.00	**
Thornton.....		22	100 watt m	30.00	660.00	**
Thorold.....	4,904	{ 400	75 watt m	7.50	3,391.54	0.69
		{ 2	100 watt m	8.00		
		{ 35	200 watt m	12.00		
		{ 2	300 watt m	15.00		
Tilbury.....	1,980	{ 107	100 watt m	12.00	1,753.96	0.89
		{ 25	200 watt m	20.00		

**Population not shown in Government statistics. s Series system. m Multiple system.

††Certain additional street lighting costs for special service are paid direct in form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing
Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
				\$ c.	\$ c.	\$ c.
Tillsonburg.....	3,828	{ 278 1 12 44 1	100 c.p. 250 c.p. 300 watt 500 watt Traffic light	s s m m m 18.36	9.50 13.00 32.00 42.00 }	4,846.54 1.27
Toronto.....	648,309	{ 46,338 4,154 1,429 185 5 391 353 154	100 watt 200 watt 300 watt 500 watt 1,000 watt 1-lt. stds. 300 w. 1-lt. stds. 500 w. 5-lt. stds. 100 w.	m m m m m m m m 40.00 47.50 47.50	8.00-10.00 14.00-20.00 20.00-25.00 35.00-40.00 70.00 }	512,392.10 0.79
Toronto Twp.....		{ 417 1	100 watt Intersection light	m m	12.00 43.20	5,066.95 **
Tottenham.....	526	49	150 c.p.	s	19.00	931.00 1.77
Trenton.....	6,480	{ 48 312 1	600 c.p. 100 watt 500 watt	s m m	63.00 10.50 63.00	6,350.75 0.98
Tweed.....	1,256	{ 137 2	100 c.p. 100 c.p. (special)	s s	15.00 20.00	2,061.21 1.64
Uxbridge.....	1,527	{ 132 6 1 1 3	100 watt 100 watt (5 mos.) 200 watt 200 watt (5 mos.) 300 watt	m m m m m	12.00 8.00 16.00 11.00 20.00	1,719.00 1.13
Victoria Harbor	1,092	78	100 watt	m	8.50	663.00 0.61
Walkerton.....	2,358	{ 119 39 1 8	150 c.p. 250 c.p. 50 watt 100 watt Decorative lights	s s m m m	14.00 24.50 6.00 14.00 100.00	2,840.11 1.20
Wallaceburg....	4,537	{ 191 12 56	150 c.p. 400 c.p. 300 watt	s s m	12.00 22.00 33.00	4,377.50 1.04
Wardsville.....	243	36	100 watt	m	20.00	720.00 2.96
Warkworth.....		{ 40 2	100 watt 200 watt	m m	14.00 24.50	595.00 **
Waterdown.....	885	{ 75 8	100 watt 200 watt	m m	10.00 17.00	886.00 1.00

**Population not shown in Government statistics. s Series system. m Multiple system.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Popula- tion	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
Waterford.....	1,238	{ 157 4 1 10 1	100 watt <i>m</i> 100 watt <i>m</i> 100 watt (9 mos.) <i>m</i> 200 watt <i>m</i> 500 watt <i>m</i>	{ 8.00 12.00 12.00 15.00 25.00	1,488.00	1.20
Waterloo.....	8,425	{ 370 120 93 5 18 3 9 10 44	80 c.p. <i>s</i> 100 c.p. <i>s</i> 150 watt <i>m</i> 200 watt <i>m</i> 300 watt <i>m</i> 500 watt <i>m</i> 500 Watt <i>m</i> 300 watt 3-lt. stds. <i>m</i> 450 watt 5-lt. stds. <i>m</i>	{ 8.00 10.00 10.00 12.00 21.00 30.00 35.00 25.00 36.00	7,716.08	††
Watford.....	975	{ 91 11 16	100 watt <i>m</i> 200 watt (8 mos.) <i>m</i> 300 watt (4 mos.) <i>m</i>	{ 12.50 20.00 31.00	1,449.49	1.49
Waubashene.....		{ 46 10	100 watt <i>m</i> 100 watt (5 mos.) <i>m</i>	{ 9.00 5.00	464.00	**
Welland.....	10,924	{ 178 14 460 25 6 4 6	600 c.p. orn. <i>s</i> 600 c.p. (Park) <i>s</i> 100 watt <i>m</i> 200 watt <i>m</i> 300 watt orn. <i>m</i> 500 watt <i>m</i> Empty sockets <i>m</i>	{ 30.00 30.00 11.00 18.00 30.00 28.00 18.00	11,053.01	††
Wellesley.....		60	100 watt <i>m</i>	11.00	660.00	**
Wellington.....	907	88	100 c.p. <i>s</i>	12.00	1,041.00	1.15
West Lorne.....	784	{ 88 10	100 watt <i>m</i> 200 watt <i>m</i>	{ 10.00 18.00	1,039.17	1.33
Weston.....	5,048	{ 421 15 111 20 5 2	100 c.p. <i>s</i> 100 c.p. <i>s</i> 600 c.p. <i>s</i> 300 watt <i>m</i> 100 watt 5-lt. stds. <i>m</i> Municipal signs <i>m</i>	{ 7.50 9.50 30.00 11.00 21.00 110.00	7,279.51	1.44
Westport.....	710	{ 2 68	50 watt <i>m</i> 100 watt <i>m</i>	{ 10.00 19.00	1,247.06	1.76
Wheatley.....	744	{ 64 40	100 watt <i>m</i> 150 watt <i>m</i>	{ 13.00 16.00	1,472.00	1.98
Whitby.....	3,706	{ 129 69 165 3 3	80 c.p. <i>s</i> 100 c.p. <i>s</i> 100 watt <i>m</i> 150 watt <i>m</i> 500 watt <i>m</i>	{ 11.00 12.00 9.50 10.00 15.00	4,059.06	1.10

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Certain additional street lighting costs for special service are paid direct in form of debenture charges.

STATEMENT "C"—Concluded

Street Lighting Installation in Hydro Municipalities, December 31, 1938; showing Rate per Lamp, Cost to Municipality in 1938, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Interim rate per lamp per annum	Cost to municipality in 1938	Cost per capita
Warton.....	1,743	{ 104 26	100 watt 200 watt	<i>m</i> 15.00 <i>m</i> 24.00	\$ c. 2,304.03	\$ c. 1.32
Williamsburg.....		16	100 watt	<i>m</i> 15.00	240.00	**
Winchester.....	1,041	118	100 watt	<i>m</i> 8.00	944.00	0.91
Windermere....	128	13	100 watt	<i>m</i> 30.00	390.00	3.05
Windsor.....	102,704	{ 943 94 73 3 2,453 1,076 660 3 140 3 25 1 1,506 195 205	100 c.p. 250 c.p. 400 c.p. 600 c.p. 100 c.p. orn. 250 c.p. orn. 400 c.p. orn. 1,000 c.p. orn. 100 watt 150 watt 200 watt 300 watt 100 watt orn. 150 watt orn. 200 watt orn.	<i>s</i> 11.00 <i>s</i> 15.00 <i>s</i> 19.00 <i>s</i> 26.00 <i>s</i> 13.00 <i>s</i> 17.00 <i>s</i> 21.50 <i>s</i> 35.00 <i>m</i> 8.50 <i>m</i> 11.50 <i>m</i> 13.50 <i>m</i> 19.00 <i>m</i> 10.00 <i>m</i> 13.00 <i>m</i> 15.00	100,398.12	††
Wingham.....	2,085	{ 106 25 22 8	150 c.p. 250 c.p. 200 watt Strings 200 watt ea.	<i>s</i> 17.00 <i>s</i> 30.00 <i>m</i> 30.00 <i>m</i> 45c. per 100 watts per month	3,372.00	1.62
Woodbridge....	831	{ 94 2	100 watt 300 watt	<i>m</i> 10.00 <i>m</i> 23.00	950.36	1.14
Woodstock.....	11,382	{ 553 12 98 22 78 1	100 c.p. 250 c.p. 100 watt 150 watt 300 watt 250 watt floodlight (6 mos.)	<i>s</i> 8.00 <i>s</i> 20.00 <i>m</i> 8.00 <i>m</i> 12.00 <i>m</i> 32.00 <i>m</i> 12.00	8,467.44	0.74
Woodville.....	418	{ 37 5	100 watt 500 watt	<i>m</i> 12.00 <i>m</i> 38.00	620.03	1.48
Wyoming.....	528	52	100 watt	<i>m</i> 15.00	780.00	1.48
Zurich.....		63	100 watt	<i>m</i> 11.00	693.00	**

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Certain additional street lighting costs for special service are paid direct in form of debenture charges.

STATEMENT "D"

(pages 378 to 395)

**Statistics relating to the Supply of Electrical Energy to Consumers
in Ontario Urban Municipalities Served by
The Hydro-Electric Power Commission
for the year 1938**

STATEMENT "E"

(pages 396 to 411)

**Cost of Power to Municipalities and Rates to Consumers for
Domestic Service—Commercial Light Service—Power Service
in Ontario Urban Municipalities Served by
The Hydro-Electric Power Commission
for the year 1938**

STATEMENT "D"

Statistics Relating to the Supply of Electrical Energy to Consumers in Urban Municipalities Served by The Hydro-Electric Power Commission

Regarding the results of Hydro operation from the standpoint of the consumers, the following tabulation gives much useful and interesting information. For each main class of service in each urban municipal utility receiving power at cost from the Commission, Statement "D" lists the revenue, the consumption and the number of consumers, together with unit average costs and consumptions and other pertinent data.

The policy and practice of the Commission has been, and is, to make as widespread and beneficial a distribution of electrical energy as possible, and to extend to every community that can economically be reached by transmission lines, the benefit of electrical service. Even where, in certain localities, by reason of the distance from a source of supply or on account of the small quantity of power required by the municipality, the cost per horsepower to the municipality—and, consequently, the cost of service to the consumer—must unavoidably be higher than in more favourably situated communities, service has not been withheld when the consumers were able and willing to pay the cost.

The accompanying diagram summarizes graphically certain data of Statement "D" respecting the average cost to the consumer. It will be observed that the total amount of the energy sold in municipalities where circumstances necessitate rates which result in the higher average costs to the consumer is relatively insignificant. With respect to power service, it should be noted that the statistics of Statement "D", and of the diagram, cover mainly retail power service supplied to the smaller industrial consumers. The average amount of power taken by the industrial consumers served by the municipalities is about 45 horsepower. The Commission serves certain large power consumers direct on behalf of the various systems of municipalities.

It should be kept in mind that the revenues reported in Statement "D," and used for purposes of calculating the net unit costs to the consumer, are the total revenues contributed by the consumers, and provide, in addition to the cost of power, sums specifically applicable to the retirement of capital, and also operating surplus which is in part applied to retirement of capital or extension of plant and is in part returned in cash to the consumers.

It should also be noted that average costs per kilowatt-hour or per horsepower if employed indiscriminately as a criterion by means of which to compare the rates or prices for electrical service in various municipalities, will give misleading results. The average costs per kilowatt-hour, as given in Statement "D" for respective classes of service in each municipality, are statistical results obtained by dividing the respective revenues by the aggregate kilowatt-hours sold. As such, the data reflect the combined influence of a number of factors, of which the rates or prices to consumers are but one factor. Owing to the varying influence of factors other than the rates, it is seldom found that in any two municipalities the average cost per kilowatt-hour to the consumers, even of the same classification, is in proportion to the respective rates for service. Instances even occur where for a class of consumers in one municipality, the average costs per kilowatt-hour are substantially lower than for the same class in another municipality, even though the rates are higher.

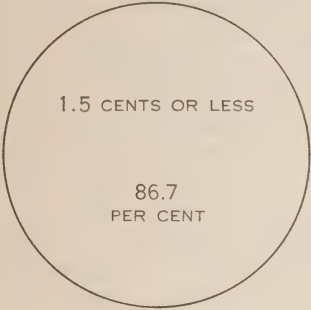
COST OF ELECTRICAL SERVICE

IN MUNICIPALITIES SERVED BY

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

DOMESTIC SERVICE

THE AREAS OF THE CIRCLES REPRESENT PROPORTIONATELY THE TOTAL KILOWATT-HOURS SOLD FOR DOMESTIC SERVICE IN MUNICIPALITIES WHERE THE AVERAGE CHARGE TO CONSUMERS INCLUSIVE OF ALL CHARGES IS, PER KILOWATT-HOUR:



1.6 TO 2.9 CENTS

12.7
PER CENT



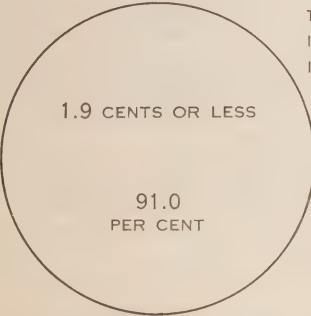
3.0 CENTS
OR MORE

0.6
PER CENT



COMMERCIAL LIGHT SERVICE

THE AREAS OF THE CIRCLES REPRESENT PROPORTIONATELY THE TOTAL KILOWATT-HOURS SOLD FOR COMMERCIAL LIGHT SERVICE IN MUNICIPALITIES WHERE THE AVERAGE CHARGE TO CONSUMERS INCLUSIVE OF ALL CHARGES IS, PER KILOWATT-HOUR:



2.0 TO 3.9 CENTS

8.2
PER CENT



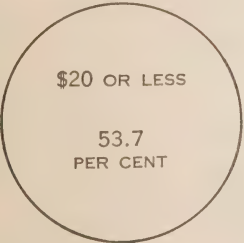
4.0 CENTS
OR MORE

0.8
PER CENT



POWER SERVICE SUPPLIED BY MUNICIPALITIES

THE AREAS OF THE CIRCLES REPRESENT PROPORTIONATELY THE AGGREGATE HORSEPOWER SOLD FOR POWER SERVICE IN MUNICIPALITIES WHERE THE AVERAGE CHARGE TO CONSUMERS INCLUSIVE OF ALL CHARGES IS, PER HORSEPOWER PER YEAR:



\$30 OR MORE

0.3
PER CENT



With respect to domestic service, for example, instances may be observed where two municipalities have identical prices or rates for domestic service, but the average cost per kilowatt-hour to the consumer varies by as much as 50 per cent or more. Such variations are due principally to differences in the extent of utilization of the service for the operation of electric ranges, water heaters and other appliances, an indication of which is afforded by the statistics of average monthly consumption.

In the case of power service, average unit costs are still less reliable as an indication of the relative rates for service in different municipalities. In the case of hydro-electric power supplied to industries at cost, the rate schedules incorporate charges both for demand and for energy consumption, and thus, although the quantity of power taken by a consumer—that is, the demand as measured in horsepower—is the most important factor affecting costs and revenues, it is not the only one. The number of hours the power is used in the month or year—which, in conjunction with the power, determines the energy consumption, as measured in kilowatt-hours—also affects the costs and revenues. Consequently, in two municipalities charging the same rates for power service, the average cost per horsepower to the consumer will vary in accordance with the consumers' average number of hours' use of the power per month. A greater average energy consumption per horsepower increases the average cost per horsepower and decreases the average cost per kilowatt-hour to the consumer, and *vice versa*.*

*In view of the fact that the data of Statement "D" have been misinterpreted in the making of certain comparisons as to the cost of electricity in various territories, it is desirable to add a word of caution respecting their significance. Essentially, the average cost or revenue per kilowatt-hour is *not a criterion of rates* even with similar forms of rate schedules and for the same class of service. Particularly is this true when revenues and consumptions of all classes of service and of all kinds of rate schedules, are indiscriminately lumped together in order to deduce a so-called "average cost or rate per kilowatt-hour" for all services.

In one community rates for each class of service, and the cost to every consumer in each class for any given service and consumption, may be substantially higher than in another community, and yet there may be in the former community a lower "average revenue per kilowatt-hour."

EXAMPLE.—Assume sales of electrical energy by two electric utilities, A and B, in each case 10,000,000 kilowatt-hours.

Class of service	CASE A Higher rates and lower revenues per kilowatt-hour			CASE B Lower rates and higher revenues per kilowatt-hour		
	Energy sales	Rate per kw-hr.	Revenue	Energy sales	Rate per kw-hr.	Revenue
	kw-hr.	cents	\$	kw-hr.	cents	\$
Residence.....	1,000,000	4	40,000	3,000,000	3	90,000
Power.....	9,000,000	1	90,000	7,000,000	0.75	52,500
Total.....	10,000,000	....	130,000	10,000,000	....	142,500
Average revenue...	1.3 cents per kw-hr.			1.425 cents per kw-hr.		

It will be observed that in Case A the rates both for residence and for power service are 33 per cent higher than in Case B, but the average revenue per kilowatt-hour is nearly 9 per cent less.

In this instance, the explanation lies in the relative quantities of energy sold to each class. Service to large power consumers entails a smaller capital investment in distribution lines and equipment and lower operating costs per kilowatt-hour delivered, than does service to domestic and to commercial light consumers, and even where the rates for all classes of service are low, produces a smaller average revenue per kilowatt-hour. Consequently, if one electrical utility as compared with another sells a larger proportion of its energy for power purposes, its "average revenue per kilowatt-hour" may easily be lower than that of the other utility even though its rates for every class of service are substantially higher.

Although the derived statistics of Statement "D" are valueless as a means of comparing the *rates* in one municipality with those in another, they nevertheless fulfil a function in affording a general measure of the *economy of service* to consumers in the co-operating Ontario municipalities—an economy that has resulted primarily from the low rates themselves, and secondarily from the extensive use of the service that has been made possible by the low rates.

Actual bills rendered to typical consumers for similar service under closely comparable circumstances constitute the best basis for making comparisons. In researches respecting rates to consumers therefore the actual *rate schedules* of Statement "E" should be employed, and not statistics of average revenues per kilowatt-hour, as these are valueless for rate comparisons—and particularly so when all classifications of service are combined.

In any consideration of the relative economies of electrical service in the various municipalities—whether based on the actual rates for service as set forth in Statement "E", or on the derived statistics resulting from the rates and other factors as presented in Statement "D"—full account should be taken respectively of the influence upon costs of such factors as the size of the municipality, the distance from the source of power, the features of the power developments from which service is received, the sizes and concentrations of adjacent markets for electricity, and the sizes and characters of the loads supplied under the various classifications by the local electrical utility to the consumers.

In Statement "D" account has been taken of the sizes of municipalities by grouping them according to whether they are (i) cities—over 10,000 population; (ii) towns of 2,000 to 10,000 population; or (iii) small towns (under 2,000 population), villages, and suburban areas in townships (which are comparable in respect of conditions of supply to the smaller towns and villages). The populations are also given, and the situation of any municipality with respect to transmission lines and power supplies may be ascertained by consulting the map at the end of the Report and the diagrams of stations in Section II.

A feature of the electrical service in Ontario municipalities served by The Hydro-Electric Power Commission is the strikingly large average annual consumption per domestic consumer. There are in all more than 240 Ontario municipalities where the average annual consumption per domestic consumer is in excess of 600 kilowatt-hours. Of the 83 cities and towns with populations of 2,000 or more—in which over 85 per cent of the domestic consumers of the undertaking are served—no less than 74 have an average annual consumption per domestic consumer in excess of 1,000 kilowatt-hours; of these, 41 have an average annual consumption per domestic consumer in excess of 1,500 kilowatt-hours, and 17 have an average annual consumption per domestic consumer in excess of 2,000 kilowatt-hours.

The high average consumption for domestic service results essentially from the policy of the undertaking in providing service "at cost"; the rate schedules designed according to this principle automatically encourage liberal use of the service. Under the standard rate schedules employed by Ontario municipalities, follow-up rates of 1 cent and 1.25 cents (less 10 per cent) are in common use, and as a rule even where the higher initial rates per kilowatt-hour obtain, it is only necessary for the domestic consumer to reach a monthly charge of from \$2.00 to \$3.00 to obtain the benefit of a follow-up rate of 1.8 cents net. The cost of electric cooking is thus within reach of most of the domestic consumers in Ontario. Electric water heating is also encouraged by low flat rates for continuous heaters and by installation of equipment without capital cost to the consumer.

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers
For Domestic Service, for Commercial Light Service

Group I—CITIES

Municipality	System	Popula- tion	Domestic service					
			Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			\$ c.	kw-hr.		kw-hr.	\$ c.	cents
Belleville.....	E.O.	14,560	75,477.81	7,461,618	3,285	189	1.91	1.0
Brantford.....	Nia.	31,282	166,887.81	13,217,260	7,698	143	1.81	1.2
Chatham.....	Nia.	16,153	87,034.29	5,090,089	4,059	105	1.78	1.7
Fort William.....	T.B.	24,020	196,286.31	33,228,577	5,740	482	2.85	0.6
Galt.....	Nia.	14,410	88,226.40	6,321,470	3,809	138	1.93	1.4
Guelph.....	Nia.	21,333	106,395.69	9,128,089	5,289	144	1.68	1.2
Hamilton.....	Nia.	153,527	825,482.68	69,044,266	38,779	148	1.77	1.2
Kingston.....	E.O.	24,331	130,998.05	11,565,695	6,239	154	1.75	1.1
Kitchener.....	Nia.	32,550	192,841.68	16,850,856	7,591	185	2.12	1.1
London.....	Nia.	74,281	513,867.77	51,391,493	17,845	240	2.40	1.0
Niagara Falls.....	Nia.	18,747	129,362.85	11,253,171	4,580	204	2.35	1.1
Oshawa.....	E.O.	24,844	168,723.26	9,824,934	6,278	130	2.24	1.7
Ottawa.....	E.O.	142,852	515,503.30	58,256,559	13,645	350	3.15	0.9
Owen Sound.....	G.B.	13,118	61,153.39	4,250,368	3,315	107	1.54	1.4
Peterborough.....	E.O.	23,450	146,900.81	11,965,265	5,590	178	2.19	1.2
Port Arthur.....	T.B.	20,302	109,993.88	12,227,022	4,909	208	1.87	0.9
St. Catharines.....	Nia.	27,426	130,679.17	11,839,404	6,775	146	1.61	1.1
St. Thomas.....	Nia.	16,208	117,048.75	11,453,111	4,265	224	2.28	1.0
Sarnia.....	Nia.	18,155	94,073.85	5,898,719	4,687	105	1.67	1.6
Stratford.....	Nia.	17,615	134,441.07	10,029,042	4,252	197	2.63	1.3
Sudbury.....	N.O.P.	26,315	195,099.94	10,400,647	5,888	147	2.76	1.9
Toronto.....	Nia.	648,309	4,271,141.48	348,674,691	164,087	177	2.17	1.2
Toronto D.C. and 60 cycle†.....			17,406.11	596,194	319	156	4.55	2.9
Welland.....	Nia.	10,924	52,838.63	3,366,978	2,486	113	1.77	1.6
Windsor.....	Nia.	102,704	707,507.43	47,070,126	23,653	165	2.49	1.5
Woodstock.....	Nia.	11,382	69,738.33	6,051,620	3,100	162	1.87	1.2

†This—with the exception of a relatively small D.C. power load—is a special service not created by The Hydro-Electric Power Commission but acquired through the purchase of a privately owned company. It does not include street railway power.

Group II—TOWNS

Amherstburg.....	Nia.	2,869	20,822.98	1,435,706	642	186	2.70	1.5
Barrie.....	G.B.	8,135	55,608.64	4,122,275	2,066	166	2.24	1.3
Bowmanville.....	E.O.	3,850	27,271.72	1,485,967	1,143	108	1.99	1.8
Brampton.....	Nia.	5,638	39,357.55	2,833,124	1,446	163	2.27	1.4
Brockville.....	E.O.	9,983	48,290.09	4,044,673	2,823	111	1.43	1.2
Carleton Place.....	E.O.	4,278	17,670.96	1,107,470	998	92	1.48	1.6
Cobourg.....	E.O.	5,125	30,102.72	1,657,966	1,282	108	1.96	1.8
Collingwood.....	G.B.	5,478	26,656.94	1,494,161	1,350	92	1.65	1.8
Dundas.....	Nia.	4,839	21,466.72	1,309,324	1,256	88	1.42	1.6
Dunnville.....	Nia.	4,004	13,531.56	778,083	904	73	1.25	1.7

“D”

in Ontario Municipalities Served by the Commission
and for Power Service during the year 1938

Population, 10,000 or more

Commercial Light service						Power service			Total number of consumers
Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of consumers	Average monthly horse-power	
\$ c.	kw-hr.		kw-hr.	\$ c.	cents	\$ c.			
47,956.73	3,715,185	610	508	6.55	1.3	38,376.00	97	2,583.1	3,992
74,787.61	7,480,183	1,142	546	5.46	1.0	*126,415.23	140	7,613.6	8,980
77,608.46	4,881,561	769	529	8.41	1.6	73,694.51	105	3,732.7	4,933
62,034.35	2,571,200	917	234	5.64	2.4	63,855.34	117	3,904.6	6,774
42,124.78	2,601,824	501	433	7.01	1.6	106,027.12	119	5,743.1	4,429
54,636.47	4,507,820	789	476	5.77	1.2	121,266.19	132	7,555.0	6,210
427,981.93	37,639,514	5,152	608	6.92	1.1	1,654,825.00	1,250	103,758.8	45,181
84,357.06	6,254,418	927	562	7.58	1.3	106,937.86	142	6,067.3	7,308
115,372.85	8,416,464	1,051	668	9.16	1.4	281,125.98	240	14,650.3	8,882
196,729.35	15,917,833	2,103	638	7.80	1.2	415,371.51	443	22,490.5	20,391
59,700.86	5,567,557	712	652	6.99	1.1	81,282.45	86	4,604.3	5,378
66,447.93	3,294,669	554	496	9.99	2.0	233,378.22	107	11,166.8	6,939
191,360.07	11,828,243	1,355	727	11.77	1.6	73,485.21	181	4,615.7	15,181
40,557.61	2,612,607	564	386	5.99	1.6	43,128.16	114	2,627.0	3,993
79,392.37	4,747,510	910	435	7.27	1.7	110,471.15	159	6,210.2	6,659
61,850.92	5,325,992	858	517	6.01	1.1	612,366.75	110	36,261.2	5,877
61,578.11	5,106,030	807	527	6.36	1.2	160,903.63	158	11,096.9	7,740
51,146.37	4,248,320	619	572	6.88	1.2	55,029.57	77	3,580.5	4,962
48,019.68	3,388,198	634	445	6.31	1.4	159,863.06	80	6,650.9	5,401
54,465.10	3,049,746	602	422	7.54	1.8	60,424.02	116	3,031.7	4,970
172,015.75	4,556,810	1,001	379	14.32	3.8	51,575.05	169	2,005.5	7,058
2,790,588.61	173,090,806	24,754	583	9.39	1.6	‡3,682,242.97	4,259	161,666.0	194,835
72,686.14	1,720,858	616	233	9.83	4.2	321,267.08	800	11,961.0	1,735
32,992.58	2,277,784	480	395	5.73	1.4	87,115.95	80	4,085.7	3,046
344,548.89	21,799,527	3,192	569	8.99	1.6	524,434.43	447	25,714.9	27,292
39,484.32	2,895,100	473	510	6.95	1.4	76,030.20	91	4,995.6	3,664

NOTE—The above group of 25 cities utilizes about 80 per cent of the power distributed by the Commission to the urban municipal utilities of Ontario.

*Includes only 25-cycle data. ‡Does not include street railway power.

of Population, 2,000 or more

6,828.31	370,908	125	247	4.55	1.8	5,667.01	15	229.3	782
35,031.45	2,085,508	417	417	7.00	1.7	18,171.91	47	1,021.7	2,530
9,787.18	473,259	154	256	5.30	2.1	45,892.95	27	1,859.6	1,324
18,648.23	1,118,794	248	376	6.27	1.7	19,059.69	54	1,290.6	1,748
27,282.22	1,953,871	435	374	5.23	1.4	38,196.19	72	2,310.0	3,330
9,078.80	434,725	196	185	3.86	2.1	24,506.08	18	1,319.0	1,212
19,118.32	849,303	278	255	5.73	2.2	24,012.78	50	1,257.0	1,584
12,282.37	571,577	200	238	5.12	2.1	22,387.14	55	1,382.1	1,605
11,821.21	784,003	189	346	5.21	1.5	22,739.58	36	1,599.3	1,481
14,068.54	844,115	220	320	5.33	1.7	12,494.08	25	835.8	1,149

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers
For Domestic Service, for Commercial Light Service
Group II—TOWNS

Municipality	System	Popula- tion	Domestic service					
			Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			\$ c.	kw-hr.		kw-hr.	\$ c.	cents
Elmira.....	Nia.	2,069	15,075. 11	868,308	518	139	2.42	1.7
Fergus.....	Nia.	2,785	16,323. 75	1,031,930	660	130	2.06	1.6
Forest Hill.....	Nia.	10,208	186,013. 59	14,051,800	2,832	413	5.47	1.3
Georgetown.....	Nia.	2,325	17,179. 50	1,084,608	741	122	1.93	1.6
Goderich.....	Nia.	4,488	29,939. 91	1,664,276	1,232	113	2.03	1.8
Hanover.....	G.B.	3,191	19,572. 76	1,047,335	747	117	2.18	1.9
Hespeler.....	Nia.	2,810	14,239. 95	757,137	735	86	1.61	1.9
Humberstone.....	Nia.	2,629	10,264. 65	489,137	634	64	1.35	2.1
Huntsville.....	G.B.	2,707	12,031. 50	1,048,600	674	130	1.49	1.1
Ingersoll.....	Nia.	5,177	30,599. 78	2,156,305	1,404	128	1.82	1.4
Kincardine.....	G.B.	2,458	15,666. 78	569,403	670	71	1.95	2.8
Kingsville.....	Nia.	2,363	13,951. 86	824,556	618	111	1.88	1.7
Leamington.....	Nia.	5,446	26,717. 34	1,773,670	1,436	103	1.55	1.5
Lindsay.....	E.O.	7,294	40,425. 68	2,731,783	1,961	116	1.72	1.5
Listowel.....	Nia.	2,826	16,292. 40	1,033,619	746	115	1.82	1.6
Long Branch.....	Nia.	4,140	26,391. 23	1,566,041	1,256	104	1.75	1.7
Meaford.....	G.B.	2,719	12,983. 77	613,857	664	77	1.63	2.1
Merriton.....	Nia.	2,644	12,735. 36	983,819	690	119	1.54	1.3
Midland.....	G.B.	6,669	35,654. 70	2,282,150	1,584	120	1.88	1.6
Mimico.....	Nia.	6,940	53,267. 68	4,026,001	1,843	182	2.41	1.3
Napanee.....	E.O.	3,018	22,793. 81	1,468,855	816	150	2.33	1.6
New Toronto.....	Nia.	7,095	36,224. 01	2,675,974	1,705	131	1.77	1.4
Orangeville.....	G.B.	2,479	15,348. 73	802,784	686	98	1.86	1.9
Paris.....	Nia.	4,325	23,318. 19	1,993,643	1,163	143	1.67	1.2
Penetanguishene.....	G.B.	4,177	11,674. 28	550,634	647	71	1.50	2.1
Perth.....	E.O.	4,183	23,491. 92	1,648,251	1,016	135	1.93	1.4
Petrolia.....	Nia.	2,711	11,695. 44	594,488	750	76	1.50	2.0
Pictou.....	E.O.	3,410	20,642. 09	1,297,245	975	111	1.76	1.6
Port Colborne.....	Nia.	6,348	29,568. 31	1,570,055	1,445	91	1.71	1.9
Port Hope.....	E.O.	4,577	25,170. 67	1,601,864	1,319	101	1.59	1.6
Prescott.....	E.O.	2,850	16,299. 10	1,265,533	742	142	1.83	1.3
Preston.....	Nia.	6,415	30,972. 58	2,244,939	1,515	123	1.70	1.4
Riverside.....	Nia.	5,090	38,131. 41	1,741,771	1,299	112	2.45	2.2
St. Marys.....	Nia.	4,017	28,016. 58	1,516,160	1,017	124	2.30	1.8
Simcoe.....	Nia.	5,826	25,187. 36	1,565,710	1,446	90	1.45	1.6
Smiths Falls.....	E.O.	7,626	43,924. 81	2,988,436	1,806	138	2.03	1.5
Strathroy.....	Nia.	2,947	20,208. 96	1,506,403	830	151	2.03	1.3
Swansea.....	Nia.	5,831	64,781. 02	4,532,952	1,746	216	3.09	1.4
Tecumseh.....	Nia.	2,245	12,087. 58	438,065	569	64	1.77	2.8
Thorold.....	Nia.	4,904	18,249. 51	1,362,739	1,152	99	1.32	1.3
Tillsonburg.....	Nia.	3,828	16,861. 20	1,046,451	1,087	80	1.29	1.6
Trenton.....	E.O.	6,480	29,248. 48	1,844,583	1,417	108	1.72	1.6
Walkerton.....	G.B.	2,358	15,177. 95	835,713	604	115	2.09	1.8
Wallaceburg.....	Nia.	4,537	18,080. 67	1,058,415	1,107	80	1.36	1.7
Waterloo.....	Nia.	8,425	58,839. 56	5,451,400	1,974	230	2.48	1.1
Weston.....	Nia.	5,048	44,635. 78	4,432,767	1,334	277	2.79	1.0
Whitby.....	E.O.	3,706	22,465. 80	1,595,016	899	148	2.08	1.4
Wingham.....	G.B.	2,085	12,228. 59	577,951	561	87	1.82	2.1

"D"—Continued

in Ontario Municipalities Served by the Commission
and for Power Service during the year 1938
Population, 2,000 or more

Commercial Light service						Power service			Total number of con- sumers
Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of con- sumers	Average monthly horse- power	
\$ c.	kw-hr.		kw-hr.	\$ c.	cents	\$ c.			
7,208.93	289,668	122	198	4.92	2.5	6,099.32	21	342.3	661
6,612.53	225,605	111	169	4.96	2.9	13,299.71	14	656.3	785
21,570.01	1,333,101	215	517	8.36	1.6	2,775.61	20	155.5	3,067
7,018.92	382,193	130	245	4.50	1.8	23,441.14	28	1,174.9	899
16,731.86	743,650	241	257	5.79	2.2	13,523.49	20	638.9	1,493
7,865.78	377,541	139	226	4.72	2.1	19,589.11	23	835.4	909
5,403.26	304,782	100	254	4.50	1.8	35,585.22	28	1,753.5	863
2,801.60	172,257	62	231	3.77	1.6	4,188.25	6	184.3	702
9,828.51	610,229	126	404	6.50	1.6	13,649.11	15	849.0	815
16,250.13	1,041,902	232	374	5.83	1.5	27,145.04	47	1,609.7	1,683
8,887.73	270,675	118	191	6.28	3.3	11,507.90	17	500.9	805
7,110.03	398,345	150	221	3.95	1.8	4,598.34	16	228.6	784
17,610.38	1,036,750	259	334	5.67	1.7	23,604.71	31	1,326.6	1,726
26,070.16	1,310,337	331	330	6.56	2.0	28,174.73	72	1,574.8	2,364
10,484.46	539,459	154	292	5.67	1.9	13,011.75	23	708.7	923
6,006.00	401,869	96	348	5.21	1.5	2,552.81	7	119.9	1,359
7,762.61	357,509	141	211	4.59	2.2	8,088.72	19	419.8	824
2,759.69	174,820	68	214	3.38	1.6	108,649.24	13	5,635.8	771
16,542.12	927,375	222	348	6.21	1.8	50,537.69	62	3,668.5	1,868
10,512.14	657,090	144	380	6.08	1.6	11,267.59	19	497.5	2,006
14,261.30	644,919	197	273	6.03	2.2	10,280.40	30	592.8	1,043
16,284.24	1,338,292	210	531	6.46	1.2	131,879.45	31	6,348.5	1,946
9,943.00	463,989	156	248	5.31	2.1	6,766.64	25	378.3	867
8,209.49	576,015	190	253	3.60	1.4	14,087.24	23	879.5	1,376
6,519.25	276,914	104	222	5.22	2.4	18,058.08	27	738.4	778
13,786.32	748,976	200	312	5.75	1.8	14,544.69	26	817.8	1,242
7,479.94	322,387	178	151	3.50	2.3	23,546.57	68	872.6	996
14,849.30	868,974	195	371	6.35	1.7	5,924.55	33	444.6	1,203
15,772.96	983,010	224	365	5.87	1.6	19,925.79	25	964.7	1,694
12,345.72	634,766	213	248	4.83	2.0	28,172.08	39	1,396.3	1,571
9,492.85	567,532	176	269	4.49	1.7	4,794.59	20	338.9	938
18,011.03	1,039,393	226	383	6.64	1.7	39,979.47	44	2,426.0	1,785
4,232.80	190,464	55	288	6.41	2.2	5,417.95	7	199.9	1,361
10,914.34	492,013	167	246	5.45	2.2	22,881.17	41	925.4	1,225
28,550.02	2,016,501	358	469	6.64	1.4	28,115.73	41	1,312.5	1,845
15,573.64	966,654	278	290	4.67	1.6	22,562.05	44	1,128.2	2,128
11,459.54	621,775	174	298	5.48	1.8	11,116.91	31	603.4	1,035
6,530.04	357,527	76	392	7.16	1.9	15,945.58	13	723.6	1,835
3,895.90	158,742	53	250	6.13	2.5	2,165.94	3	92.2	625
7,248.75	562,302	161	286	3.75	1.3	38,554.18	17	2,103.0	1,330
14,718.12	972,778	236	343	5.20	1.5	10,904.47	33	777.2	1,356
19,261.14	947,551	262	301	6.13	2.0	54,905.89	52	2,738.5	1,731
9,027.13	415,491	140	247	5.37	2.2	5,981.69	17	223.5	761
11,531.52	593,290	241	205	3.99	1.9	54,013.66	36	2,037.1	1,384
24,645.46	1,682,303	258	543	7.96	1.5	35,446.09	72	2,129.5	2,304
10,225.05	791,588	177	373	4.81	1.3	45,920.12	30	2,470.0	1,541
11,879.36	647,839	164	329	6.04	1.8	14,725.99	21	632.3	1,084
7,688.70	319,846	148	180	4.33	2.4	10,561.87	24	431.7	733

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers
For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

NOTE—The power used in the smaller places and rural districts is, and possibly must always be, a relatively small proportion of the power distributed by the Commission. Thus, the power used by the small municipalities in the following group, which includes small towns, villages and certain suburban areas in townships, is less than 10 per cent of the power distributed by the Commission to Ontario municipalities. This relatively small proportion of the total power,

Municipality	System	Popula- tion	Domestic service					
			Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			\$ c.	kw-hr.		kw-hr.	\$ c.	cents
Acton.....	Nia.	1,916	10,382.62	722,033	499	121	1.73	1.4
Agincourt.....	Nia.	P.V.	4,722.01	322,107	151	178	2.61	1.5
Ailsa Craig.....	Nia.	472	2,407.54	105,011	139	63	1.44	2.3
Alexandria.....	E.O.	1,919	7,097.15	157,887	329	40	1.80	4.5
Alliston.....	G.B.	1,340	9,194.42	335,900	353	79	2.17	2.7
Alvinston.....	Nia.	650	3,859.05	73,125	165	37	1.95	5.3
Ancaster Twp.....	Nia.	.....	10,355.94	581,951	310	156	2.81	1.8
Apple Hill.....	E.O.	P.V.	1,255.45	26,112	54	40	1.94	4.8
Arkona.....	Nia.	406	2,703.98	60,249	102	49	2.21	4.5
Arthur.....	G.B.	1,035	5,260.15	113,382	198	48	2.21	4.6
Athens.....	E.O.	691	3,110.74	68,680	163	35	1.59	4.5
Aylmer.....	Nia.	1,998	10,941.81	672,570	685	82	1.33	1.6
Ayr.....	Nia.	755	5,252.23	233,880	225	87	1.94	2.2
Baden.....	Nia.	P.V.	3,632.28	219,221	148	123	2.05	1.7
Bath.....	E.O.	346	1,675.92	31,798	44	60	3.17	5.3
Beachville.....	Nia.	P.V.	3,004.61	170,272	152	99	1.68	1.7
Beamsville.....	Nia.	1,121	9,669.58	607,339	337	150	2.39	1.6
Beaverton.....	G.B.	949	6,065.90	326,006	331	82	1.53	1.9
Beeton.....	G.B.	555	3,427.61	62,386	127	54	2.25	4.2
Belle River.....	Nia.	810	4,392.24	210,540	238	74	1.54	2.1
Blenheim.....	Nia.	1,775	8,525.46	470,130	536	73	1.33	1.8
Bloomfield.....	E.O.	666	3,118.12	123,577	177	58	1.47	2.5
Blyth.....	Nia.	652	3,490.29	114,019	172	55	1.69	3.1
Bolton.....	Nia.	567	4,174.46	203,303	172	99	2.02	2.1
Bothwell.....	Nia.	643	2,617.42	135,600	182	62	1.20	1.9
Bradford.....	G.B.	988	6,307.31	213,205	235	76	2.24	3.0
Brantford Twp.....	Nia.	.....	21,179.00	1,222,837	959	112	1.94	1.7
Brechin.....	G.B.	P.V.	1,014.97	23,496	48	41	1.76	4.3
Bridgeport.....	Nia.	P.V.	4,639.47	186,860	154	101	2.51	2.5
Brigden.....	Nia.	P.V.	2,349.89	65,496	123	48	1.73	3.6
Brighton.....	E.O.	1,366	8,868.36	257,043	519	41	1.42	3.5
Brussels.....	Nia.	780	4,573.10	147,517	236	52	1.61	3.1
Burford.....	Nia.	P.V.	4,187.77	248,563	195	106	1.79	1.7
Burgessville.....	Nia.	P.V.	1,446.53	42,886	54	66	2.23	3.4
Caledonia.....	Nia.	1,410	6,134.95	277,067	388	59	1.32	2.2
Campbellville.....	Nia.	P.V.	1,517.52	36,398	48	63	2.63	4.2
Cannington.....	G.B.	76	5,378.49	217,368	255	71	1.76	2.5
Capreol.....	N.O.P.	1,730	9,043.00	212,243	304	58	2.49	4.3
Cardinal.....	E.O.	1,529	6,786.01	378,145	365	86	1.55	1.8
Cayuga.....	Nia.	664	3,799.55	115,614	157	61	2.02	3.3

"D"—Continued

in Ontario Municipalities Served by the Commission
and for Power Service during the year 1938

VILLAGES AND SUBURBAN AREAS

however, exerts upon the economic life of the Province a most beneficial influence. It should further be appreciated that about 35 per cent of these municipalities obtain their power, not from Niagara, but from relatively small water-power developments throughout the Province. The net cost per kilowatt-hour given in the table is the cost inclusive of all charges. Consult also introduction to Statement "D", page 378.

Commercial Light service						Power service			Total number of con-sumers
Revenue	Consumption	Number of con-sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of con-sumers	Average monthly horse-power	
\$ c.	kw-hr.		kw-hr.	\$ c.	cents	\$ c.			
4,373.32	243,732	91	223	4.00	1.8	13,505.48	15	555.0	605
1,243.66	52,747	26	169	3.98	.4	1,207.60	3	63.9	180
1,396.55	51,855	40	108	2.91	2.7	1,045.96	2	45.9	181
5,294.52	113,615	108	88	4.09	4.7	3,134.35	13	122.7	450
6,622.35	217,850	106	171	5.21	.0	3,177.11	14	102.1	473
2,571.38	56,810	53	89	4.04	4.5	560.36	2	17.9	220
2,681.24	144,340	36	334	6.20	1.9	822.60	7	37.1	353
850.48	23,492	22	89	3.22	3.6	355.80	2	23.7	78
1,624.29	38,216	35	91	3.87	4.3	147.93	2	5.0	139
4,901.84	114,819	89	108	4.59	4.3	2,090.35	4	103.0	291
1,520.14	39,480	50	66	2.53	3.8	945.61	1	33.8	214
8,780.57	539,420	146	307	5.01	1.6	6,920.00	12	376.7	843
1,659.80	68,760	40	143	3.46	2.4	278.60	4	15.9	269
2,039.47	90,284	39	193	4.36	2.3	5,454.92	2	239.9	189
823.16	17,140	18	79	3.81	4.8	.....	.....	.....	62
575.87	24,203	21	96	2.28	2.3	10,699.82	4	453.8	177
4,811.90	212,685	70	253	5.73	2.3	2,874.35	8	160.0	415
2,515.43	142,237	68	174	3.08	1.8	1,304.74	9	74.3	408
2,250.76	51,126	36	118	5.21	4.4	1,522.63	5	73.3	168
2,237.47	102,866	50	171	3.73	2.2	1,080.67	2	31.1	290
7,053.47	418,576	131	305	5.14	1.7	4,374.49	11	193.9	678
1,484.35	47,135	36	109	3.44	.1	804.59	7	33.7	220
1,846.55	60,845	51	99	3.02	3.0	410.35	3	26.8	226
1,361.37	42,194	31	113	3.66	3.2	1,798.87	10	100.0	213
1,458.60	76,730	54	118	2.25	1.9	722.59	7	77.8	243
3,638.39	91,054	67	113	4.53	4.0	2,367.28	10	123.5	312
4,383.56	273,778	53	430	6.89	1.6	3,063.71	7	148.2	1,019
1,163.79	28,331	27	87	3.59	1.4	876.71	4	37.7	79
1,009.02	38,479	23	139	3.65	2.6	235.21	3	10.2	180
2,095.77	59,132	41	120	4.26	3.6	561.41	5	23.2	169
3,816.07	142,473	94	126	3.39	2.7	2,814.72	10	149.0	623
2,723.30	88,551	64	115	3.55	3.1	737.02	2	27.0	302
1,095.51	71,514	32	186	2.85	1.5	1,490.51	2	56.5	229
639.19	17,364	16	90	3.33	3.7	319.57	2	19.5	72
4,817.21	265,926	90	246	4.46	1.8	1,716.23	6	74.0	484
587.51	17,940	11	136	4.45	3.3	.....	.....	.....	59
2,716.72	90,400	70	108	3.23	3.0	575.91	9	35.3	334
4,003.50	122,903	53	193	6.29	3.3	735.77	1	25.0	358
2,196.41	101,485	62	136	2.95	2.2	593.79	3	19.8	430
3,912.00	117,894	62	158	5.25	3.3	1,020.75	8	41.5	227

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers
For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

Municipality	System	Popula- tion	Domestic service					
			Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			\$ c.	kw-hr.		kw-hr.	\$ c.	cents
Chatsworth.....	G.B.	321	1,981.46	59,901	85	59	1.94	3.3
Chesley.....	G.B.	1,815	8,837.28	453,189	427	88	1.72	2.0
Chesterville.....	E.O.	1,068	4,449.42	268,400	242	92	1.53	1.7
Chippawa.....	Nia.	1,186	7,419.63	573,155	336	142	1.84	1.3
Clifford.....	Nia.	446	2,501.18	65,226	121	45	1.72	3.8
Clinton.....	Nia.	1,901	12,050.06	678,163	549	103	1.83	1.8
Cobden.....	E.O.	621	2,230.69	58,666	108	45	1.72	3.8
Colborne.....	E.O.	964	4,870.29	189,770	256	62	1.59	2.6
Coldwater.....	G.B.	589	3,141.65	170,944	148	96	1.77	1.8
Comber.....	Nia.	P.V.	2,073.10	74,549	102	61	1.69	2.8
Cookstown.....	G.B.	P.V.	2,246.66	49,434	103	40	1.82	4.5
Cottam.....	Nia.	P.V.	2,410.98	80,053	111	60	1.81	3.0
Courtright.....	Nia.	334	1,830.83	33,060	74	37	2.06	5.5
Creemore.....	G.B.	632	3,148.30	93,887	151	52	1.74	3.4
Dashwood.....	Nia.	P.V.	1,531.16	49,300	79	52	1.62	3.1
Delaware.....	Nia.	P.V.	1,695.43	95,018	56	141	2.52	1.8
Deseronto.....	E.O.	1,300	5,573.01	189,519	301	52	1.54	2.9
Dorchester.....	Nia.	P.V.	2,412.24	116,028	146	66	1.38	2.1
Drayton.....	Nia.	551	3,332.44	125,994	163	64	1.70	2.6
Dresden.....	Nia.	1,572	6,465.69	306,944	415	61	1.29	2.1
Drumbo.....	Nia.	P.V.	2,175.81	92,688	90	86	2.01	2.3
Dublin.....	Nia.	P.V.	1,486.11	33,388	54	52	2.29	4.5
Dundalk.....	G.B.	666	2,868.77	116,795	173	56	1.38	2.5
Durham.....	G. B.	1,852	6,661.41	328,781	442	62	1.26	2.0
Dutton.....	Nia.	807	3,079.23	186,570	220	71	1.17	1.7
East York Twp.....	Nia.	.....	182,025.90	11,321,483	9,503	99	1.59	1.6
Elmvale.....	G.B.	P.V.	3,046.17	124,300	177	59	1.43	2.5
Elmvale.....	G.B.	P.V.	1,310.29	27,183	64	35	1.71	4.8
Elora.....	Nia.	1,149	7,161.53	365,010	327	93	1.82	2.0
Embro.....	Nia.	428	2,851.78	143,300	117	102	2.03	2.0
Erieau.....	Nia.	273	3,676.99	127,368	193	55	1.59	2.9
Erie Beach.....	Nia.	.....	1,827.80	33,566	82	34	1.86	5.4
Essex.....	Nia.	1,833	8,084.98	420,280	469	75	1.44	1.9
Etobicoke Twp.....	Nia.	.....	135,407.05	11,040,670	4,081	225	2.76	1.2
Exeter.....	Nia.	1,652	10,841.50	683,030	459	124	1.97	1.6
Finch.....	E.O.	371	2,108.48	97,791	96	85	1.83	2.2
Flesherton.....	G.B.	447	2,482.14	73,876	131	47	1.58	3.4
Fonthill.....	Nia.	829	5,133.57	199,877	227	73	1.88	2.6
Forest.....	Nia.	1,502	11,450.46	584,920	461	106	2.07	2.0
Glencoe.....	Nia.	810	5,013.69	202,604	218	77	1.92	2.5

“D”—Continued

in Ontario Municipalities Served by the Commission
and for Power Service during the year 1938

VILLAGES AND SUBURBAN AREAS

Commercial Light service						Power service			Total number of con- sumers
Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of con- sumers	Average monthly horse- power	
\$ c.	kw-hr.		kw-hr.	\$ c.	cents	\$ c.			
1,560.13	48,306	34	118	3.82	3.2	.....	.....	.....	119
4,963.92	276,920	98	235	4.22	1.8	6,861.15	21	362.9	546
3,641.15	160,561	69	194	4.39	2.3	1,938.02	3	88.0	314
1,960.26	116,769	49	198	3.33	1.7	1,140.74	2	39.7	387
1,976.29	64,758	40	135	4.12	3.1	464.11	1	15.7	162
7,493.62	325,491	151	180	4.14	2.3	4,452.87	16	196.6	716
2,426.74	57,489	50	96	4.04	4.2	357.96	1	9.7	159
3,005.24	111,043	76	122	3.30	2.7	826.35	5	47.0	337
1,885.84	65,982	52	106	3.02	2.9	6,460.39	3	262.1	203
1,950.82	63,626	45	117	3.61	3.0	2,226.67	3	80.6	150
1,361.16	36,679	30	102	3.78	3.7	694.84	3	52.1	136
1,387.40	69,382	30	193	3.85	2.0	277.85	1	15.0	142
1,073.78	25,936	24	90	3.73	4.1	806.77	1	12.5	99
2,065.07	59,018	55	89	3.13	3.5	796.00	3	57.7	209
1,074.37	28,320	28	84	3.20	3.8	708.03	2	26.0	109
687.75	26,907	17	132	3.37	2.6	.....	.....	.....	73
2,196.33	59,539	67	74	2.73	3.7	1,982.28	7	73.1	375
909.31	37,104	28	110	2.71	2.4	565.38	2	28.2	176
1,963.02	55,151	63	73	2.60	3.6	1,192.12	5	69.1	231
5,576.09	297,414	119	208	3.90	1.9	3,313.87	10	168.3	544
851.83	30,016	28	89	2.54	2.8	593.96	1	24.2	119
784.17	16,967	22	64	2.97	4.6	1,187.27	2	48.1	78
2,772.73	97,512	72	113	3.21	2.8	2,567.04	5	151.8	250
4,984.65	231,241	104	185	3.99	2.2	4,322.56	14	230.9	560
2,383.11	118,970	67	148	2.96	2.0	2,871.67	9	158.3	296
28,592.90	1,706,712	414	343	5.75	1.7	36,712.42	42	1,634.7	9,959
1,889.87	84,259	57	123	2.76	2.2	2,592.08	8	123.0	242
681.98	15,407	23	56	2.47	4.4	1,135.67	1	39.8	88
3,988.13	173,192	76	190	4.37	2.3	2,737.11	2	139.0	405
1,461.06	44,668	42	88	2.89	3.3	1,063.83	1	37.5	160
1,249.23	45,969	12	319	8.68	2.7	401.00	2	17.8	207
411.22	13,794	3	383	11.42	3.0	.....	.....	.....	85
6,546.59	372,520	119	261	4.58	1.8	7,613.08	19	395.7	607
22,008.18	1,446,592	217	555	8.45	1.5	24,973.49	32	1,208.2	4,330
5,780.80	260,413	119	182	4.05	2.2	3,486.83	11	217.7	589
1,624.33	53,228	35	127	3.87	3.1	354.43	1	9.2	132
1,831.52	57,349	54	89	2.83	3.2	213.09	1	15.6	186
1,585.21	78,604	33	198	4.00	2.0	474.98	4	17.2	264
6,068.86	226,764	120	157	4.21	2.7	4,719.53	22	217.3	603
3,606.77	110,281	78	118	3.85	3.3	3,406.95	6	120.8	302

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers
For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

Municipality	System	Popula- tion	Domestic service					
			Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			\$ c.	kw-hr.		kw-hr.	\$ c.	cents
Grand Valley.....	G.B.	600	3,309.53	85,886	163	44	1.69	3.9
Granton.....	Nia.	P.V.	1,734.57	84,139	85	82	1.70	2.1
Gravenhurst.....	G.B.	2,052	9,613.27	754,008	502	125	1.60	1.3
Hagersville.....	Nia.	1,307	5,481.85	291,143	356	68	1.29	1.9
Harriston.....	Nia.	1,266	7,077.78	323,459	350	77	1.69	2.2
Harrow.....	Nia.	984	8,785.03	539,751	280	161	2.61	1.6
Hastings.....	E.O.	762	3,876.91	103,466	196	44	1.65	3.7
Havelock.....	E.O.	1,164	5,008.14	165,869	287	48	1.45	3.0
Hensall.....	Nia.	680	3,865.84	152,730	190	67	1.70	2.5
Highgate.....	Nia.	349	1,623.02	56,935	99	48	1.37	2.9
Holstein.....	G.B.	P.V.	990.17	15,952	49	27	1.68	6.2
Jarvis.....	Nia.	505	2,655.00	93,368	143	54	1.55	2.8
Kemptville.....	E.O.	1,204	6,934.59	327,622	337	81	1.71	2.1
Kirkfield.....	G.B.	P.V.	889.85	14,482	32	38	2.32	6.1
Lakefield.....	E.O.	1,332	5,777.12	226,904	323	59	1.49	2.5
Lambeth.....	Nia.	P.V.	3,163.03	181,448	122	124	2.16	1.7
Lanark.....	E.O.	702	2,959.64	74,290	160	39	1.54	4.0
Lancaster.....	E.O.	588	1,936.30	37,210	88	35	1.83	5.2
La Salle.....	Nia.	812	6,221.29	310,349	203	127	2.55	2.0
London Twp.....	Nia.	.....	11,851.31	978,103	401	203	2.46	1.2
Lucan.....	Nia.	614	4,191.68	197,643	178	93	1.96	2.1
Lucknow.....	G.B.	1,036	6,836.80	191,059	268	59	2.13	3.6
Lynden.....	Nia.	P.V.	2,130.11	88,415	90	82	1.97	2.4
Madoc.....	E.O.	1,210	4,793.35	161,571	275	49	1.45	3.0
Markdale.....	G.B.	781	3,833.57	159,045	223	59	1.43	2.4
Markham.....	Nia.	1,116	6,901.77	382,808	297	107	1.94	1.8
Marmora.....	E.O.	1,014	3,356.04	97,639	217	37	1.29	3.4
Martintown.....	E.O.	P.V.	850.48	22,092	45	41	1.57	3.8
Maxville.....	E.O.	758	3,587.46	80,000	151	44	1.98	4.5
Merlin.....	Nia.	P.V.	2,335.50	74,456	114	54	1.71	3.1
Mildmay.....	G.B.	746	3,163.08	143,914	161	74	1.64	2.2
Milton.....	Nia.	1,791	12,251.22	654,607	499	109	2.05	1.9
Milverton.....	Nia.	1,006	4,796.04	320,055	241	111	1.66	1.5
Mitchell.....	Nia.	1,607	11,595.57	736,053	476	129	2.03	1.6
Moorefield.....	Nia.	P.V.	1,093.25	21,568	56	32	1.63	5.1
Mt. Brydges.....	Nia.	P.V.	2,773.56	145,828	150	81	1.54	1.9
Mt. Forest.....	G.B.	1,946	8,555.89	426,130	471	75	1.51	2.0
Neustadt.....	G.B.	441	2,031.96	27,576	93	25	1.82	7.4
Newbury.....	Nia.	279	1,323.57	29,037	68	36	1.62	4.6
Newcastle.....	E.O.	690	5,808.74	188,481	195	81	2.48	3.0

"D"—Continued

in Ontario Municipalities Served by the Commission
and for Power Service during the year 1938

VILLAGES AND SUBURBAN AREAS

Commercial Light service						Power service			Total number of con- sumers
Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of con- sumers	Average monthly horse- power	
\$ c.	kw-hr.		kw-hr.	\$ c.	cents	\$ c.			
2,176.68	54,532	52	87	3.49	4.0	1,263.19	4	70.6	219
1,060.95	44,527	33	112	2.68	2.4	.....	.....	.....	118
7,696.93	539,071	112	401	5.73	1.4	10,647.22	16	534.8	630
5,841.13	318,733	112	237	4.35	1.8	9,970.67	14	524.0	482
4,825.10	222,358	100	185	4.02	2.2	5,603.60	13	260.5	463
4,689.12	215,224	77	233	5.07	2.2	2,824.56	5	134.2	362
2,012.09	52,161	50	87	3.35	3.8	251.45	4	17.3	250
2,707.53	62,767	63	83	3.58	4.3	2,328.40	3	85.5	353
2,466.46	84,280	59	119	3.48	2.9	3,011.28	14	137.0	263
864.07	28,295	35	67	2.06	3.1	1,041.32	6	58.1	140
640.45	14,462	20	60	2.67	4.4	130.13	1	7.5	70
1,839.20	83,522	44	158	3.48	2.2	3,338.91	4	126.0	191
4,633.63	224,413	84	223	4.60	2.1	4,109.04	7	174.2	428
1,251.14	25,356	20	106	5.21	4.9	.....	.....	.....	52
4,209.36	179,842	66	227	5.31	2.3	3,326.84	6	170.5	395
1,181.33	47,008	25	157	3.94	2.5	523.63	2	50.0	149
1,488.67	41,252	38	90	3.26	3.6	.....	.....	.....	198
1,634.62	38,100	34	93	4.00	4.3	.....	.....	.....	122
1,598.56	71,311	18	330	7.40	2.2	2,223.00	3	70.6	224
2,318.22	146,605	22	555	8.78	1.6	1,590.69	4	72.5	427
1,822.44	58,406	52	94	2.92	3.1	2,301.55	7	111.9	237
3,643.50	90,073	79	95	3.84	4.0	3,621.46	6	135.4	353
737.54	24,220	14	144	4.39	3.0	702.82	2	39.4	106
3,526.75	118,880	90	110	3.27	3.0	1,256.25	6	87.3	371
2,704.92	110,867	87	106	2.59	2.4	1,142.56	10	68.8	320
3,408.16	145,160	70	173	4.06	2.3	2,821.19	9	125.9	376
1,822.96	70,913	48	123	3.16	2.6	393.07	3	30.4	268
932.70	30,409	23	110	3.38	3.1	.....	.....	.....	68
2,596.03	63,209	49	107	4.42	4.1	.....	.....	.....	200
2,056.80	68,875	47	122	3.65	3.0	316.56	1	11.7	162
2,008.67	64,155	51	105	3.28	3.1	909.24	3	29.7	215
5,568.13	361,391	109	276	4.26	1.5	16,400.85	15	672.0	623
3,456.91	165,583	77	179	3.74	2.1	3,171.58	8	197.5	326
5,608.65	293,120	124	197	3.77	1.9	4,338.78	22	288.4	622
942.00	29,760	28	89	2.80	3.2	16.20	1	1.5	85
962.24	37,986	45	71	1.78	2.5	831.76	3	39.9	198
7,127.86	331,578	153	181	3.88	2.1	4,334.38	13	255.0	637
1,024.43	18,279	26	59	3.28	5.6	390.98	1	9.2	120
680.94	14,280	22	54	2.58	4.8	269.44	1	14.0	91
2,335.43	62,904	36	146	5.41	3.7	1,735.45	5	66.8	236

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers
For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

Municipality	System	Popula- tion	Domestic service					
			Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			\$ c.	kw-hr.		kw-hr.	\$ c.	cents
New Hamburg.....	Nia.	1,441	9,466.21	536,321	359	124	2.20	1.8
Niagara-on-the-Lake.....	Nia.	1,651	13,913.50	1,099,492	522	176	2.22	1.3
Nipigon.....	T.B. P.V.		3,652.40	175,966	189	77	1.61	2.1
North York Twp.....	Nia.	.....	140,344.20	8,207,154	3,968	172	2.94	1.7
Norwich.....	Nia.	1,212	8,126.20	544,160	376	121	1.80	1.5
Norwood.....	E.O.	716	4,236.22	140,450	225	52	1.57	3.0
Oil Springs.....	Nia.	470	1,454.44	69,725	88	66	1.38	2.1
Omamee.....	E.O.	598	2,293.70	103,072	153	56	1.25	2.2
Otterville.....	Nia. P.V.		2,240.79	93,329	123	63	1.52	2.4
Paisley.....	G.B.	773	3,934.83	90,911	193	39	1.70	4.3
Palmerston.....	Nia.	1,410	9,503.43	594,923	389	127	2.04	1.6
Parkhill.....	Nia.	997	5,117.47	122,800	256	40	1.67	4.2
Plattsville.....	Nia. P.V.		2,396.05	91,486	108	70	1.85	2.6
Point Edward.....	Nia.	1,161	5,607.06	240,926	292	68	1.60	2.3
Port Credit.....	Nia.	1,751	13,578.76	1,200,530	477	210	2.37	1.1
Port Dalhousie.....	Nia.	1,565	15,779.96	1,229,413	617	166	2.13	1.3
Port Dover.....	Nia.	1,640	8,207.88	378,694	612	52	1.12	2.2
Port Elgin.....	G.B.	1,293	8,722.32	467,687	435	90	1.67	1.9
Port McNicoll.....	G.B.	911	3,639.61	128,017	209	51	1.45	2.8
Port Perry.....	G.B.	1,118	6,846.61	268,241	331	68	1.72	2.6
Port Rowan.....	Nia.	659	2,905.63	82,632	124	55	1.95	3.5
Port Stanley.....	Nia.	741	12,544.27	755,563	665	95	1.57	1.6
Priceville.....	G.B.	*3,500s P.V.	750.50	10,840	36	25	1.74	6.9
Princeton.....	Nia.	P.V.	2,246.88	102,464	82	104	2.28	2.2
Queenston.....	Nia.	P.V.	3,140.55	236,666	77	259	3.44	1.3
Richmond.....	E.O.	419	1,790.11	56,982	61	78	2.45	2.4
Richmond Hill.....	Nia.	1,241	8,078.16	597,730	360	138	1.87	1.3
Ridgetown.....	Nia.	1,956	8,893.88	540,190	569	79	1.30	1.6
Ripley.....	G.B.	432	3,527.58	69,088	127	45	2.31	5.1
Rockwood.....	Nia. P.V.		3,590.80	187,209	158	99	1.89	1.9
Rodney.....	Nia.	722	3,259.36	140,948	221	53	1.23	2.3
Rosseau.....	G.B.	300	2,823.64	51,609	63	68	3.73	5.5
Russell.....	E.O. P.V.		2,486.88	60,497	118	46	1.89	4.1
St. Clair Beach.....	Nia.	110	2,142.95	92,358	68	113	2.63	2.3
St. George.....	Nia. P.V.		2,978.05	136,982	148	77	1.67	2.2
St. Jacobs.....	Nia. P.V.		3,997.99	248,690	130	159	2.56	1.6
Scarboro Twp.....	Nia.	.....	106,102.65	6,853,569	4,907	116	1.80	1.5
Seaforth.....	Nia.	1,708	9,679.71	561,256	494	95	1.63	1.7
Shelburne.....	G.B.	1,099	5,612.68	209,500	296	59	1.58	2.7
Southampton.....	G.B.	1,202	9,556.40	434,900	472	77	1.69	2.2

*Summer resort—Population in August is about 3,500.

"D"—Continued

in Ontario Municipalities Served by the Commission
and for Power Service during the year 1938

VILLAGES AND SUBURBAN AREAS

Commercial Light service						Power service			Total number of con- sumers
Revenue	Consumption	Number of con- sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of con- sumers	Average monthly horse- power	
\$ c.	kw-hr.		kw-hr.	\$ c.	cents	\$ c.			
4,542.10	182,253	104	146	3.64	2.5	4,977.09	12	197.3	475
4,364.21	231,880	83	232	4.38	1.8	2,129.57	8	86.1	613
3,851.60	107,394	58	154	5.53	3.6	636.74	2	44.8	249
22,015.66	878,389	299	245	6.14	2.5	37,995.88	34	1,175.9	4,301
4,163.50	210,990	89	198	3.90	2.0	2,013.15	7	130.4	472
2,305.12	53,930	59	76	3.26	4.3	534.87	2	22.8	286
1,365.11	58,063	33	147	3.45	2.4	6,485.20	36	180.6	157
1,644.84	71,984	45	133	3.05	2.3	2,461.88	6	120.2	204
1,978.69	84,931	40	177	4.12	2.3	415.82	4	19.5	167
2,946.10	83,949	55	127	4.46	3.5	845.69	4	31.0	252
5,315.67	245,628	99	207	4.47	2.2	6,871.70	12	390.4	500
3,527.94	104,240	76	114	3.87	3.4	755.35	3	29.3	335
924.71	36,642	24	127	3.21	2.5	1,079.40	1	44.4	133
2,255.16	72,440	42	143	4.47	3.1	29,810.73	10	1,222.0	344
6,234.66	405,320	91	371	5.71	1.5	3,822.90	8	160.9	576
3,367.33	202,659	52	325	5.40	1.7	4,856.12	13	302.0	682
4,331.54	217,341	116	156	3.11	2.0	4,533.68	13	237.1	741
5,366.44	222,839	102	182	4.38	2.4	3,244.25	6	185.8	543
836.47	31,072	24	108	2.90	2.7	.....	.....	.....	233
3,144.58	98,867	78	106	3.36	3.2	2,921.56	11	145.7	420
1,974.72	61,520	41	125	4.01	3.2	109.12	3	9.9	168
4,395.21	191,856	109	146	3.36	2.3	3,666.71	8	159.1	782
287.48	4,356	10	36	2.40	6.6	120.71	1	3.7	47
801.89	30,308	20	126	3.34	2.6	2,393.68	3	88.9	105
1,068.18	52,180	13	334	6.84	2.0	.....	.....	.....	90
1,470.18	44,915	28	134	4.42	3.3	.....	.....	.....	89
4,056.30	246,966	68	302	4.97	1.6	1,993.52	13	118.0	441
6,361.51	346,196	133	217	3.99	1.9	3,800.25	20	221.5	722
1,608.17	28,498	49	48	2.73	5.6	837.17	1	45.0	177
1,021.47	40,944	35	97	2.43	2.5	369.32	2	13.3	195
2,656.15	97,891	75	108	2.95	2.7	2,201.77	6	97.5	306
1,119.75	18,915	18	88	5.18	5.9	.....	.....	.....	81
1,489.13	31,446	35	75	3.55	4.7	.....	.....	.....	153
2,080.01	77,125	7	918	24.76	2.7	305.09	2	10.4	77
1,428.34	59,970	37	135	3.22	2.4	2,498.21	3	100.2	188
1,615.17	62,805	30	174	4.49	2.6	4,033.63	7	167.0	167
21,787.85	1,238,675	388	266	4.68	1.7	23,614.00	35	940.2	5,330
5,875.27	335,674	120	233	4.08	1.8	4,303.03	14	216.5	628
3,814.48	148,603	81	152	3.92	2.6	2,474.25	14	183.7	391
3,690.09	133,610	90	124	3.42	2.8	3,806.78	12	157.7	574

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers
For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

Municipality	System	Popula- tion	Domestic service					Average monthly consumption kw-hr.	Average monthly bill \$ c.	Net cost per kw-hr. cents
			Revenue	Consumption	Number of con- sumers					
			\$ c.	kw-hr.			kw-hr.	\$ c.	cents	
Springfield.....	Nia.	378	1,714. 68	61,964	101	51	1.41	2.8		
Stamford Twp.....	Nia.	.....	60,184. 34	4,619,202	1,853	208	2.71	1.3		
Stayner.....	G.B.	1,034	4,736. 16	229,151	264	72	1.50	2.1		
Stirling.....	E.O.	938	4,906. 62	325,436	296	92	1.38	1.5		
Stouffville.....	Nia.	1,115	7,219. 03	306,975	381	67	1.58	2.4		
Streetsville.....	Nia.	672	4,682. 95	223,155	185	101	2.11	2.1		
Sunderland.....	G.B.	P.V.	2,574. 87	72,531	115	53	1.87	3.6		
Sutton.....	Nia.	852	8,290. 38	295,350	426	58	1.62	2.8		
Tara.....	G.B.	472	3,165. 71	93,248	148	53	1.78	3.4		
Tavistock.....	Nia.	1,037	7,515. 36	476,662	284	140	2.21	1.6		
Teeswater.....	G.B.	838	4,979. 86	141,231	227	52	1.83	3.5		
Thamesford.....	Nia.	P.V.	2,918. 51	188,056	131	119	1.85	1.5		
Thamesville.....	Nia.	814	3,552. 32	177,085	233	63	1.27	2.0		
Thedford.....	Nia.	593	3,059. 67	75,526	148	43	1.72	4.1		
Thorndale.....	Nia.	P.V.	1,656. 32	47,395	68	58	2.03	3.5		
Thornton.....	G.B.	P.V.	1,476. 17	21,958	62	30	1.98	6.7		
Tilbury.....	Nia.	1,980	6,508. 68	375,766	445	70	1.22	1.7		
Toronto Twp.....	Nia.	.....	65,982. 08	4,669,319	2,254	173	2.43	1.4		
Tottenham.....	G.B.	526	3,582. 65	74,618	137	45	2.18	4.8		
Trafalgar Twp. No. 1....	Nia.	.....	14,135. 14	742,865	360	172	3.27	1.9		
Trafalgar Twp. No. 2....	Nia.	.....	5,146. 40	236,723	161	123	2.65	2.2		
Tweed.....	E.O.	1,256	5,637. 58	194,331	302	54	1.56	2.9		
Uxbridge.....	G.B.	1,527	7,996. 45	350,084	397	73	1.68	2.3		
Victoria Harbor.....	G.B.	1,092	3,023. 24	90,673	208	36	1.21	3.3		
Wardsville.....	Nia.	243	1,296. 67	23,895	49	41	2.21	5.4		
Warkworth.....	E.O.	P.V.	1,910. 51	49,786	137	30	1.16	3.8		
Waterdown.....	Nia.	885	5,067. 78	332,870	238	117	1.77	1.5		
Waterford.....	Nia.	1,238	5,806. 67	350,305	348	84	1.39	1.7		
Watford.....	Nia.	975	6,567. 31	332,200	284	97	1.93	2.0		
Waubauskene.....	G.B.	P.V.	2,808. 35	127,580	204	52	1.15	2.2		
Wellesley.....	Nia.	P.V.	2,387. 29	82,406	126	55	1.58	2.9		
Wellington.....	E.O.	907	5,837. 98	266,865	316	70	1.54	2.2		
West Lorne.....	Nia.	784	3,058. 57	137,550	201	57	1.27	2.2		
Westport.....	E.O.	710	3,380. 56	72,085	106	57	2.66	4.7		
Wheatley.....	Nia.	744	4,047. 19	140,380	215	54	1.58	2.9		
Wiaraton.....	G.B.	1,743	7,875. 41	238,271	391	51	1.68	3.3		
Williamsburg.....	E.O.	P.V.	2,239. 66	274,407	114	201	1.64	0.8		
Winchester.....	E.O.	1,041	5,925. 51	379,876	286	111	1.73	1.6		
Windermere.....	G.B.	128	2,602. 82	42,529	56	63	3.87	6.1		
Woodbridge.....	Nia.	831	6,364. 17	378,606	268	118	1.98	1.7		
Woodville.....	G.B.	418	2,078. 04	79,031	110	60	1.57	2.6		
Wyoming.....	Nia.	528	2,380. 59	79,700	146	45	1.36	3.0		
Zurich.....	Nia.	P.V.	2,866. 28	92,504	127	61	1.88	3.1		

STATEMENT "E"

Cost of Power to Municipalities and Rates to Consumers for Domestic Service—Commercial Light Service—Power Service in Ontario Urban Municipalities Served by The Hydro-Electric Power Commission For the Year 1938

In Statement "E" are presented the rate schedules applicable to consumers for domestic service, for commercial light service and for power service in each of the co-operating municipalities receiving service at cost through The Hydro-Electric Power Commission.* The cost per horsepower of the power supplied at wholesale by the Commission to the municipality, an important factor in determining rates to consumers, is also stated.

Cost of Power to Municipalities

The figures in the first column represent the total cost for the year of the power supplied by the Commission to the municipality, divided by the number of horsepower supplied. Details respecting these costs are given in the "Cost of Power" tables relating to the several systems, as presented in Section IX, and an explanation of the items making up the cost of power is given in the introduction to that Section.

Rates to Consumers

The Power Commission Act stipulates that "The rates chargeable by any municipal corporation generating or receiving and distributing electrical power or energy shall at all times be subject to the approval and control of the Commission,"† in accordance with the Act and in pursuance of its fundamental principle of providing service at cost, the Commission requires that accurate cost records be kept in each municipality, and exercises a continuous supervision over the rates charged to consumers.

At the commencement of its operations, the Commission introduced scientifically-designed rate schedules for each of the three main classes into which the electrical service is usually divided, namely: residential or domestic service, commercial light service, and power service, and the schedules in use during the past year are presented in the tables of this statement.

*Except townships served as parts of rural power districts, for which consult latter part of Section III.

†R.S.O. 1937, Ch. 62, Sec. 89.

Domestic Service: Domestic rates apply to electrical service in residences, for all household purposes, including lighting, cooking and the operation of all domestic appliances.

During the past two or three years most of the urban municipal utilities have further simplified the domestic rate structure by abolishing the service charge, and making a suitable adjustment in the first consumption rate. Where the service charge is retained at 33 and 66 cents gross per month the charge of 33 cents per month per service is made when the permanently installed appliance load is under 2,000 watts, and the charge of 66 cents per month when 2,000 watts or more.

Commercial Light Service: Electrical energy used in stores, offices, churches, schools, public halls and institutions, hotels, public boarding-houses, and in all other premises for commercial purposes, including sign and display lighting, is billed at commercial lighting rates.

Water-Heater Service: For all consumers using continuous electric water heaters, low flat rates are available consisting of a fixed charge per month dependent on the capacity of the heating element and the cost of power to the municipal utility. Such heaters are so connected that the electrical energy they consume is not metered. For new installations the necessary equipment, including heater, thermostat, efficient insulation for water-storage tank, and wiring, is installed by a large number of municipal Hydro systems, without capital cost to the consumer.†

Power Service: The rate schedules given for power service in Statement "E" are those governing the supply of power at retail by each of the local municipal utilities. The average amount of power sold, per consumer, under these rates is approximately 40 horsepower—consult Statement "D". The Commission serves certain large power consumers direct on behalf of the various systems of municipalities.

The rates for power service, as given in the tables, are the rates for 24-hour unrestricted power at secondary distribution voltage. For service at primary distribution voltage the rates are usually five per cent lower than those stated. In municipalities where load conditions and other circumstances permit, lower rates are available for "restricted power," discounts additional to those listed in the table being applicable.

The service charge relates to the connected load or to the maximum demand, as measured by a 10-minute average peak, where a demand meter is installed. The prompt payment discount of 10 per cent on the total monthly bill is given for settlement within 10 days.

Under the tabulation of rates for power service there is a column headed "Basis of rate 130 hours' monthly use of demand." This column shows approximately the net annual amount payable for a demand of one horsepower, assuming a monthly use of 130 hours, which includes 30 hours' use each month at the third energy rate. Broadly, the figures in this column serve to indicate approximately the relative cost of power service in the different municipalities listed.

†In addition, the municipal Hydro systems supply booster water-heating equipment to furnish extra requirements beyond the capacity of the continuous heater; current for the booster heater is measured and charged for at the regular rates.

STATEMENT

**Cost of Power to Municipalities and Rates to Consumers for
for the Year 1938, in Urban Municipalities**

Municipality	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month*	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hrs. per month	Per kw-hr. per month			
C—City T—Town (pop. 2,000 or more)							
Acton.....	\$ c	cents		cents	cents	\$ c.	%
Agincourt.....	28.34	.....	60	2.5	1.0	0.83	10
Ailsa Craig.....	32.91	.....	60	3.4	1.1	1.11	10
Alexandria.....T	40.31	.....	60	3.0	0.9	0.83	10
Alliston.....	50.63	.....	60	5.2	1.2	1.11	10
Alvinston.....	42.52	.....	40	5.3	1.3	1.39	10
Amherstburg.....T	64.09	.....	60	5.0	1.25	1.66	10
Ancaster twp.....	30.17	.....	60	3.4	0.9	0.83	10
Apple Hill.....	27.30	.....	60	3.8	1.3	0.83	10
Arkona.....	42.13	.....	60	5.0	1.5	1.66	10
Arthur.....	59.21	.....	60	5.0	1.8	1.78	10
Athens.....	57.85	33-66	40	5.0	1.8	1.67	10
Aylmer.....T	43.28	33-66	50	4.5	1.5	1.11	10
Ayr.....	27.57	.....	60	2.4	0.9	0.83	10
Baden.....	28.12	.....	60	3.4	1.1	1.11	10
Barrie.....	27.40	.....	60	2.5	1.0	0.83	10
Bath.....	29.81	.....	60	2.7	1.0	0.83	10
Beachville.....	56.32	33-66	40	6.0	1.5	3.33	10
Beamsville.....	27.20	.....	60	3.1	1.1	0.83	10
Beaverton.....	24.71	.....	60	3.3	1.0	0.83	10
Beeton.....	35.61	.....	60	2.8	1.0	1.11	10
Belle River.....	55.17	.....	40	6.0	1.8	1.67	10
Belleville.....C	31.04	.....	60	3.6	1.0	1.11	10
Blenheim.....	24.79	.....	55	1.9	0.7	0.83	10
Bloomfield.....	32.75	.....	60	2.5	0.9	0.83	10
Blyth.....	44.11	.....	50	3.4	1.3	1.11	10
Bolton.....	42.38	.....	60	3.5	1.1	1.39	10
Bothwell.....	33.88	.....	55	3.6	1.3	1.11	10
Bowmanville.....T	38.63	.....	60	2.4	0.8	0.83	10
Bradford.....	30.16	.....	60	3.5	1.0	0.83	10
Brampton.....T	46.08	.....	40	5.4	1.4	1.67	10
Brantford.....C	25.40	.....	60	2.3	1.0	0.83	10
Brantford twp.....	23.49	.....	60	2.3	0.9	0.83	10
Brechin.....	26.51	.....	60	2.9	1.0	1.11	10
Bridgeport.....	43.67	.....	45	5.5	1.2	1.67	10
Brigden.....	30.75	33-66	50	4.0	1.3	1.11	10
Brighton.....	50.75	.....	60	3.9	0.9	1.39	10
Brockville.....T	30.94	.....	60	4.2	1.2	1.11	10
Brussels.....	24.48	.....	60	1.8	0.8	0.83	10
Burford.....	40.91	.....	50	3.8	1.1	1.39	10
	27.99	.....	60	2.9	0.9	0.83	10

*Where domestic service charge has not been abolished the charge is 33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when 2,000 watts or more.

“E”

Domestic Service—Commercial Light Service—Power Service
Served by The Hydro-Electric Power Commission

Commercial Light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All-addi-tional per kw-hr.	Mini-mum gross monthly bill	Prompt pay-ment discount	Basis of rate 130 hours' monthly use of demand	Service charge per h.p. per month	First 50 hrs. per month per kw-hr.	Second 50 hrs. per month per kw-hr.	All-addi-tional per kw-hr.	Mini-mum per h.p. per month	Local discount	Prompt pay-ment discount
cents	cents	cents	\$ c.	%	\$ c.	\$ c.	cents	cents	cents	\$ c.	%	%
5	1.8	0.5	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	3.0	0.6	1.11	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	2.3	0.6	0.83	10	25.00	1.00	2.0	1.3	0.33	.....	.....	10
5	4.5	0.8	1.66	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	4.3	1.0	1.39	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	4.6	1.0	1.66	10	53.00	1.00	6.2	4.1	0.33	.....	.....	10
5	2.5	0.6	0.83	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	3.0	0.7	0.83	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	5.0	1.0	1.66	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
5	5.0	1.0	1.78	10	53.00	1.00	6.2	4.1	0.33	.....	.....	10
5	5.0	1.0	1.67	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	4.5	1.0	1.11	10	42.00	1.00	4.6	3.0	0.33	.....	.....	10
5	1.9	0.6	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	2.5	0.7	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.2	0.7	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	2.1	0.8	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	6.0	1.0	3.33	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	2.6	0.6	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	3.0	0.6	0.83	10	25.00	1.00	2.0	1.3	0.33	.....	.....	10
5	2.0	0.8	1.11	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	5.5	1.0	1.67	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	2.7	0.6	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
4.5	1.6	0.35	0.83	10	15.00	1.00	1.3	0.8	0.33	.....	25	10
5	2.0	0.6	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	3.0	1.0	1.11	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	3.4	1.0	1.39	10	45.00	1.00	4.9	3.3	0.33	.....	.....	10
5	3.2	1.0	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	2.0	0.5	0.83	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	2.6	0.7	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	4.4	1.0	1.67	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	1.8	0.6	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
†5	1.6	0.35	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	2.3	0.6	1.11	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	4.8	0.8	1.67	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	4.0	0.7	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	3.3	0.9	1.39	10	42.00	1.00	4.6	3.0	0.33	.....	.....	10
5	3.6	0.8	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
4.5	1.6	0.4	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	3.3	1.0	1.39	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	2.0	0.6	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10

†Min. 500 watts.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for
for the Year 1938, in Urban Municipalities

Municipality	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month*	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hrs. per month	Per kw-hr. per month			
C—City T—Town (pop. 2,000 or more)							
	\$ c.	cents		cents	cents	\$ c.	%
Burgessville.....	46.43	.....	60	5.0	1.5	1.39	10
Caledonia.....	25.72	.....	60	2.7	0.9	0.83	10
Campbellville.....	48.38	.....	45	6.0	1.5	2.22	10
Cannington.....	39.18	.....	55	3.6	1.5	1.11	10
Cardinal.....	26.98	.....	55	2.5	1.1	1.11	10
Carleton Place.....T	26.37	.....	55	2.8	1.0	0.83	10
Cayuga.....	38.27	.....	60	4.2	1.3	1.39	10
Chatham.....C	25.26	.....	60	3.0	0.9	0.83	10
Chatsworth.....	36.49	.....	45	4.0	1.5	1.39	10
Chesley.....	33.83	.....	55	2.9	1.1	1.11	10
Chesterville.....	31.40	.....	55	2.3	1.0	0.83	10
Chippawa.....	21.07	.....	60	2.8	0.9	1.11	10
Clifford.....	46.97	.....	55	4.6	1.5	1.39	10
Clinton.....	33.17	.....	60	2.8	1.1	1.11	10
Cobden.....	57.57	.....	30	4.8	1.2	1.39	10
Cobourg.....T	29.44	.....	55	3.4	1.1	0.83	10
Colborne.....	32.42	.....	60	4.0	1.1	0.83	10
Coldwater.....	31.20	33-66	55	2.5	1.0	1.11	10
Collingwood.....	31.99	.....	55	3.0	1.0	0.83	10
Comber.....	39.07	.....	60	3.6	0.9	1.11	10
Cookstown.....	41.09	.....	40	5.4	1.2	1.67	10
Cottam.....	37.58	.....	60	3.6	1.0	1.39	10
Courtright.....	58.48	.....	55	6.0	1.5	1.95	10
Creemore.....	43.18	.....	45	4.2	1.0	1.39	10
Dashwood.....	37.28	.....	60	4.2	1.0	1.11	10
Delaware.....	30.22	.....	60	3.5	1.2	1.11	10
Delhi.....	35.03	.....	60	4.0	1.2	0.83	10
Deseronto.....	46.37	.....	50	4.8	1.2	0.83	10
Dorchester.....	32.62	.....	60	3.0	1.1	0.83	10
Drayton.....	46.32	.....	55	4.0	1.3	1.11	10
Dresden.....	33.73	.....	60	2.6	0.8	0.83	10
Drumbo.....	31.79	.....	60	3.8	1.1	1.11	10
Dublin.....	42.83	.....	60	5.0	1.5	1.67	10
Dundalk.....	34.12	.....	55	3.0	1.0	1.11	10
Dundas.....T	21.98	.....	60	2.5	0.9	0.83	10
Dunnville.....T	24.71	.....	60	2.4	0.8	0.83	10
Durham.....	37.26	.....	55	2.7	1.2	0.83	10
Dutton.....	30.31	.....	60	2.1	0.8	0.83	10
East York twp.....	27.71	.....	60	2.5	1.1	0.83	10
Elmira.....T	27.42	.....	60	3.5	1.0	0.83	10
Elmvale.....	35.58	.....	55	3.4	1.2	0.83	10
Elmwood.....	38.06	.....	45	5.0	1.2	1.39	10
Elora.....	29.98	.....	60	3.1	1.2	1.11	10
Embro.....	35.00	.....	60	3.4	1.2	1.39	10
Erieau.....	43.48	.....	60	3.8	1.1	1.39	10

*Where domestic service charge has not been abolished the charge is 33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when 2,000 watts or more.

“E”—Continued

Domestic Service—Commercial Light Service—Power Service
Served by The Hydro-Electric Power Commission

Commercial Light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours' monthly use of demand	Service charge per h.p. per month	First 50 hrs. per month per kw-hr.	Second 50 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	\$ c.	%	\$ c.	\$ c.	cents	cents	cents	\$ c.	%	%
5	4.5	1.0	1.39	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	2.0	0.6	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	5.8	1.0	2.22	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	2.8	1.0	1.11	10	33.00	1.00	3.2	2.1	0.33	.....	.....	10
5	2.3	1.0	1.11	10	32.00	1.00	3.1	2.0	0.33	2.78	.....	10
5	2.2	0.8	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	3.8	1.0	1.39	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	2.3	0.6	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	3.0	1.0	1.39	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	2.4	0.8	1.11	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	2.3	1.0	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	2.0	0.6	1.11	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	4.4	1.0	1.39	10	45.00	1.00	4.9	3.3	0.33	.....	.....	10
5	2.4	0.7	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	4.2	1.0	1.39	10	45.00	1.00	4.9	3.3	0.33	.....	.....	10
5	2.7	0.9	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	3.0	1.0	0.83	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.5	1.0	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.5	0.8	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
5	2.9	0.9	1.11	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	4.5	1.0	1.67	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.8	0.9	1.39	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	5.5	1.0	1.95	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
5	3.4	0.9	1.39	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	3.9	0.9	1.11	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	3.0	1.0	1.11	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	3.0	1.0	0.83	10	36.00	1.00	3.7	2.4	0.33	.....	.....	10
5	3.8	1.0	0.83	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	2.2	1.0	0.83	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	3.4	0.7	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.0	0.6	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	3.0	0.8	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	5.0	1.0	1.67	10	36.00	1.00	3.7	2.4	0.33	.....	.....	10
5	2.5	0.8	1.11	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	1.9	0.5	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	2.0	0.6	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	2.3	0.8	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	1.8	0.4	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	2.0	0.6	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	3.0	0.7	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	2.4	1.0	0.83	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	4.2	1.0	1.39	10	33.00	1.00	3.2	2.1	0.33	.....	.....	10
5	2.8	0.7	1.11	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	2.8	0.8	1.39	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	3.6	1.0	1.39	10	40.00	1.00	4.3	2.8	0.33	2.22	.....	10

STATEMENT

**Cost of Power to Municipalities and Rates to Consumers for
for the Year 1938, in Urban Municipalities**

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to munici- pality on a horse- power basis	Domestic service					
		Service charge per month*	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hrs. per month	Per kw-hr. per month			
	\$ c.	cents		cents	cents	\$ c.	%
Erie Beach.....	49.19	.....	60	5.3	1.5	1.67	10
Essex.....	29.55	.....	60	2.6	0.9	0.83	10
Etobicoke twp.....	23.47	.....	60	2.7	1.1	0.83	10
Exeter.....	31.88	.....	60	3.0	0.9	0.83	10
Fergus.....	28.28	.....	55	3.3	1.3	1.11	10
Finch.....	39.24	.....	45	3.0	1.2	1.66	10
Flesherton.....	40.56	.....	55	3.5	1.2	1.11	10
Fonthill.....	28.96	.....	60	3.5	1.2	1.39	10
Forest.....	36.71	.....	60	3.5	0.9	1.11	10
Forest Hill.....	24.91	33-66	60	2.0	1.3	0.83	10
Fort William.....C	21.57	.....	60	2.1	0.9	0.83	10
Galt.....C	23.71	.....	60	2.8	0.8	0.83	10
Gamebridge.....	.....	.....	45	5.5	1.2	1.67	10
Georgetown.....T	30.55	.....	60	3.0	0.9	0.83	10
Glencoe.....	46.05	.....	60	4.0	0.9	1.11	10
Glen Williams.....	.....	33-66	60	2.7	1.1	0.83	10
Goderich.....T	35.34	.....	55	3.3	1.0	0.83	10
Grand Valley.....	48.66	.....	45	5.2	1.2	1.39	10
Granton.....	39.56	.....	60	3.3	1.2	1.11	10
Gravenhurst.....	23.47	.....	55	2.2	0.9	0.83	10
Guelph.....C	23.38	.....	60	2.0	0.8	0.83	10
Hagersville.....	28.10	33-66	60	2.0	1.0	0.83	10
Hamilton.....C	21.03	.....	60	2.4	0.8	0.83	10
Hanover.....T	30.10	.....	60	3.0	1.5	0.83	10
Harriston.....	34.16	.....	55	3.2	1.0	1.11	10
Harrow.....	31.07	.....	60	3.5	1.0	0.83	10
Hastings.....	41.61	.....	45	4.5	1.2	1.11	10
Havelock.....	46.06	.....	50	4.5	1.2	0.83	10
Hensall.....	40.87	.....	60	3.8	1.1	1.11	10
Hespeler.....T	23.82	.....	60	3.0	0.9	0.83	10
Highgate.....	39.91	.....	60	3.2	0.9	1.11	10
Holstein.....	85.93	.....	40	5.5	1.5	1.67	10
Humberstone.....	24.31	.....	60	2.9	0.9	0.83	10
Huntsville.....T	27.47	.....	60	2.0	0.9	0.83	10
Ingersoll.....T	24.88	.....	60	2.4	0.9	0.83	10
Jarvis.....	34.72	.....	60	3.6	1.0	1.11	10
Kemptville.....	32.47	.....	55	3.5	1.2	0.83	10
Kincardine.....T	39.44	33-66	40	4.0	1.5	1.11	10
Kingston.....C	27.27	.....	50	2.2	0.8	0.83	10
Kingsville.....T	30.70	.....	60	2.8	0.9	0.83	10

*Where domestic service charge has not been abolished the charge is 33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when 2,000 watts or more.

“E”—Continued

Domestic Service—Commercial Light Service—Power Service
Served by The Hydro-Electric Power Commission

Commercial Light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours' monthly use of demand	Service charge per h.p. per month	First 50 hrs. per month per kw-hr.	Second 50 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	\$ c.	%	\$ c.	\$ c.	cents	cents	cents	\$ c.	%	%
5	5.0	1.0	1.67	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
5	2.0	0.6	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	2.0	0.6	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	2.2	0.5	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	2.6	0.7	1.11	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	2.8	1.0	1.66	10	42.00	1.00	4.6	3.0	0.33	.....	.....	10
5	2.8	1.0	1.11	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	2.8	0.7	1.39	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	3.0	0.6	1.11	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	2.0	0.75	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	2.0	0.4	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	2.3	0.4	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	4.8	0.8	1.67	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	2.0	0.5	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	3.1	1.0	1.11	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	2.8	0.75	0.83	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	2.7	0.6	0.83	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	4.3	1.0	1.39	10	33.00	1.00	3.2	2.1	0.33	.....	.....	10
5	2.6	1.0	1.11	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	1.8	0.5	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	1.6	0.3	0.83	10	14.00	1.00	1.1	0.7	0.33	.....	25	10
5	2.0	0.75	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
†5	1.6	0.35	0.83	10	15.00	1.00	1.3	0.8	0.33	.....	25	10
5	2.5	0.8	0.83	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	2.6	0.7	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	2.6	0.7	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	4.0	1.0	1.11	10	37.00	1.00	3.8	2.5	0.33	.....	.....	10
5	4.0	1.0	0.83	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	3.3	1.0	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.2	0.6	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
5	2.8	0.7	1.11	10	29.00	1.00	2.6	1.7	0.33	.....	.....	10
5	5.0	1.0	1.67	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
5	2.0	0.6	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	1.8	0.7	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	1.9	0.5	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	2.8	0.7	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.8	1.0	0.83	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	3.8	1.0	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	1.6	0.5	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	1.9	0.6	0.83	10	25.00	1.00	2.0	1.3	0.33	.....	.....	10

†Next 360 hours' use.

††All additional.

†Min. 500 watts.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1938, in Urban Municipalities

Municipality	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month*	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hrs. per month	Per kw-hr. per month			
C—City T—Town (pop. 2,000 or more)							
	\$ c.	cents		cents	cents	\$ c.	%
Kirkfield.....	51.23	33-66	40	6.0	2.0	2.22	10
Kitchener.....C	23.01	.....	60	2.2	0.8	0.83	10
Lakefield.....	35.04	.....	50	3.6	1.2	0.83	10
Lambeth.....	33.47	.....	60	3.0	1.0	1.11	10
Lanark.....	38.55	.....	45	5.0	1.5	0.83	10
Lancaster.....	56.23	.....	60	5.5	1.2	1.66	10
La Salle.....	31.07	.....	60	3.8	1.2	1.11	10
Leamington.....T	29.58	.....	60	2.4	0.8	0.83	10
Leaside.....	.....	a3	..	b1.8	1.5	0.83	10
Lindsay.....T	31.41	.....	60	2.5	0.9	0.83	10
Listowel.....T	29.29	.....	55	2.7	1.0	0.83	10
London.....C	22.71	.....	60	2.4	0.9	0.83	10
London Twp.....	27.00	.....	60	2.8	0.9	1.11	10
Long Branch.....	24.85	.....	60	2.7	1.1	0.83	10
Lucan.....	30.41	.....	60	3.4	1.1	1.11	10
Lucknow.....	46.38	33-66	45	4.2	1.5	1.67	10
Lynden.....	30.31	.....	60	3.4	1.1	1.39	10
Madoc.....	44.15	.....	50	3.2	1.2	0.83	10
Markdale.....	33.45	.....	55	3.3	1.1	1.11	10
Markham.....	30.50	.....	60	3.2	1.0	0.83	10
Marmora.....	34.67	.....	60	4.0	1.0	1.11	10
Martintown.....	38.51	.....	50	3.0	1.0	1.11	10
Maxville.....	44.57	.....	55	5.2	1.2	1.66	10
Meaford.....T	36.65	33-66	60	2.5	1.2	0.83	10
Merlin.....	38.29	.....	60	4.0	1.0	1.11	10
Merritton.....T	20.38	.....	60	2.4	0.9	0.83	10
Midland.....T	29.74	33-66	60	2.0	1.0	0.83	10
Mildmay.....	40.42	.....	40	3.6	1.0	1.39	10
Milton.....	28.80	.....	60	3.5	1.2	0.83	10
Milverton.....	29.42	.....	60	2.7	1.0	1.00	10
Mimico.....T	22.66	.....	60	2.7	1.1	0.83	10
Mitchell.....	28.18	.....	60	2.9	1.1	0.83	10
Moorefield.....	53.39	.....	50	4.5	1.2	1.39	10
Morrisburg.....	35.13	a3	60	2.0	1.0	0.83	10
Mount Brydges.....	34.30	.....	60	3.0	1.0	1.11	10
Mount Forest.....	40.33	.....	60	2.7	1.25	0.83	10
Napanee.....T	28.77	.....	50	3.5	1.2	0.83	10
Neustadt.....	49.84	33-66	60	6.0	2.0	1.67	10
Newbury.....	45.02	.....	55	5.0	1.25	1.38	10
Newcastle.....	33.66	33	60	5.0	1.5	1.11	10

*Where domestic service charge has not been abolished the charge is 33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when 2,000 watts or more.

†First 50 hours' use per kw-hr. Second 50 hours' use per kw-hr.

“E”—Continued

Domestic Service—Commercial Light Service—Power Service
Served by The Hydro-Electric Power Commission

Commercial Light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours' monthly use of demand	Service charge per h.p. per month	First 50 hrs per month per kw-hr.	Second 50 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	\$ c.	%	\$ c.	\$ c.	cents	cents	cents	\$ c.	%	%
5	6.0	1.0	2.22	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	1.9	0.4	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	2.8	1.0	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	2.6	0.8	1.11	10	29.00	1.00	2.6	1.7	0.33	.....	.....	10
5	4.0	1.0	0.83	10	45.00	1.00	4.9	3.3	0.33	.....	.....	10
5	5.5	1.0	1.66	10	62.00	1.00	7.5	5.0	0.33	.....	.....	10
5	3.3	1.0	1.11	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	1.9	0.5	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
.....	c3 & 1	1/3	0.83	10	.....	d1.10 } 0.90 }	2.0	1.0	e1/3 } 1/6 }	.....	.....	10
5	2.2	0.7	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	2.3	0.5	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	1.8	0.4	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	2.2	0.6	1.11	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	2.0	0.6	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	3.0	0.6	1.11	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	4.2	1.0	1.67	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	3.0	1.0	0.83	10	25.00	1.00	2.0	1.3	0.33	.....	.....	10
5	3.0	0.9	0.83	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	2.5	1.0	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.8	0.7	0.83	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	3.6	1.0	1.11	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	3.0	1.0	1.66	10	45.00	1.00	4.9	3.3	0.33	.....	.....	10
5	5.0	1.0	1.66	10	45.00	1.00	4.9	3.3	0.33	.....	.....	10
5	2.5	0.8	0.83	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	3.4	0.9	1.11	10	30.00	1.00	2.8	1.8	0.33	2.22	.....	10
5	1.7	0.5	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	2.0	0.9	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	2.8	0.8	1.39	10	34.00	1.00	3.4	2.2	0.33	.....	.....	10
5	2.6	0.6	0.83	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	2.5	0.7	1.00	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	2.0	0.6	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	2.4	0.7	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	4.0	1.0	1.39	10	44.00	1.00	4.8	3.2	0.33	.....	.....	10
.....	4.0) 2.0) †	1.0	0.83	10	.....	1.00	2.0	1.5	0.50	.....	.....	10
5	2.3	0.6	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	2.2	0.9	0.83	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.8	0.75	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
5	6.0	1.0	1.67	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	4.5	1.0	1.38	10	47.00	1.00	5.2	3.5	0.33	.....	.....	10
5	5.0	1.5	1.11	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10

aService charge per 100 sq. ft.

bPer kw-hr. for first 3 kw-hrs. per 100 sq. ft.

cFirst 90 hours' use 3 cents per kw-hr. Next 90 hours' use 1 cent per kw-hr.

dFirst 7.5 kilowatts \$1.10 per kilowatt. All additional, 90 cents per kilowatt.

e1/3 cent per kw-hr., next 300 hours. All additional 1/6 cent per kw-hr.

STATEMENT

**Cost of Power to Municipalities and Rates to Consumers for
for the Year 1938, in Urban Municipalities**

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to munici- pality on a horse- power basis	Domestic service					
		Service charge per month*	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hrs. per month	Per kw-hr. per month			
	\$ c.	cents		cents	cents	\$ c.	%
New Hamburg.....	27.75	.....	60	3.3	1.1	0.83	10
New Toronto.....T	25.00	.....	60	2.4	1.0	0.83	10
Niagara Falls.....C	18.32	.....	60	2.2	0.8	0.83	10
Niagara-on-the-Lake..	21.63	.....	60	2.6	1.0	0.83	10
Nipigon Twp.....	24.91	.....	60	3.0	1.0	1.11	10
North York Twp.....	27.06	.....	55	4.0	1.4	1.11	10
Norwich.....	28.88	.....	60	2.8	1.0	0.83	10
Norwood.....	34.30	.....	50	4.0	1.2	1.11	10
Oil Springs.....	35.91	.....	60	2.6	0.9	1.11	10
Omeme.....	.....	.....	60	3.5	1.3	0.83	10
Orangeville.....T	40.37	.....	55	3.2	1.0	1.11	10
Oshawa.....C	29.35	.....	50	3.8	1.1	0.83	10
Ottawa.....C	13.83	33-66	{ 60 60	{ 2.0 1.0	0.5	0.83	10
Otterville.....	35.24	.....	60	2.8	0.9	1.11	10
Owen Sound.....C	30.02	.....	60	2.1	0.9	0.83	10
Paisley.....	44.57	33-66	45	4.6	1.2	1.39	10
Palmerston.....	31.91	.....	60	2.9	1.1	1.11	10
Paris.....T	23.77	.....	60	2.3	0.9	0.83	10
Parkhill.....	47.78	.....	60	4.2	1.1	1.39	10
Penetanguishene.....T	32.51	.....	55	3.2	1.1	0.83	10
Perth.....T	25.83	.....	55	2.8	1.0	0.83	10
Peterborough.....C	25.20	.....	55	2.7	1.2	0.83	10
Petrolia.....T	32.21	.....	60	2.7	0.8	0.83	10
Pictou.....T	36.56	.....	60	2.8	1.0	0.83	10
Plattsville.....	39.33	.....	60	4.0	1.1	1.11	10
Point Edward.....	30.98	.....	60	3.2	1.0	0.83	10
Port Arthur.....C	21.30	.....	50	2.0	0.8	0.83	10 & 10
Port Colborne.....T	24.02	.....	60	3.0	1.0	0.83	10
Port Credit.....	27.24	.....	60	2.5	1.0	0.83	10
Port Dalhousie.....	24.48	.....	60	2.6	1.0	0.83	10
Port Dover.....	29.48	.....	60	2.6	0.9	0.83	10
Port Elgin.....	38.59	33-66	40	2.5	1.2	1.11	10
Port Hope.....T	30.36	.....	60	2.4	0.9	0.83	10
Port McNicoll.....	34.96	.....	50	4.0	1.5	0.83	10
Port Perry.....	44.05	.....	50	4.0	1.2	1.11	10
Port Rowan.....	36.41	.....	60	4.0	1.3	1.67	10
Port Stanley.....	31.55	.....	60	3.1	1.0	0.83	10
Prescott.....T	25.02	.....	60	2.3	1.0	0.83	10
Preston.....T	23.41	.....	60	2.6	0.8	0.83	10
Priceville.....	43.31	33-66	60	6.0	2.0	1.67	10

*Where domestic service charge has not been abolished the charge is 33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when 2,000 watts or more.

“E”—Continued

Domestic Service—Commercial Light Service—Power Service
Served by The Hydro-Electric Power Commission

Commercial Light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours' monthly use of demand	Service charge per h.p. per month	First 50 hrs per month per kw-hr.	Second 50 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	\$ c.	%	\$ c.	\$ c.	cents	cents	cents	\$ c.	%	%
5	2.4	0.7	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	1.8	0.5	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	1.6	0.35	0.83	10	15.00	1.00	1.3	0.8	0.33	.....	25	10
5	2.2	0.5	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	2.4	0.8	1.11	10	25.00	1.00	2.0	1.3	0.33	.....	.....	10
5	3.3	0.7	1.11	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	2.2	0.6	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	3.6	1.0	1.11	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	2.4	0.6	1.11	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	3.5	1.0	0.83	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	2.2	0.8	1.11	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	2.8	0.8	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
.....	†5.0	0.5	0.83	10	18.00	1.00	1.8	1.2	0.15	.....	15+10	10
5	†2.2	0.6	1.11	10	29.00	1.00	2.6	1.7	0.33	.....	.....	10
5	1.9	0.7	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	4.6	1.0	1.39	10	42.00	1.00	4.6	3.0	0.33	.....	.....	10
5	2.4	0.9	1.11	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	1.8	0.4	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	4.0	0.9	1.39	10	36.00	1.00	3.7	2.4	0.33	.....	.....	10
5	2.8	0.8	0.83	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	2.0	0.6	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	2.3	0.9	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	2.1	0.5	0.83	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	2.0	0.8	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
5	3.5	1.0	1.11	10	32.00	1.00	3.1	2.0	0.33	2.00	.....	10
5	2.4	0.6	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	1.8	0.3	0.83	10 & 10	17.00	1.00	1.7	1.1	†0.33	.....	25	10
5	2.5	0.6	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	2.0	0.7	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	2.0	0.6	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	2.2	0.8	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	2.5	0.8	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	2.2	0.6	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	3.5	1.0	0.83	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	3.2	1.0	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	3.6	1.0	1.67	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	2.4	0.6	0.83	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	2.0	0.8	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
5	2.1	0.5	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	6.0	1.0	1.67	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10

†First 30 hours' use per kw-hr.
††Next 70 hours' use per kw-hr.
‡0.33 cents per kw-hr for next 360 hours' use plus 0.133 cents per kw-hr for all additional.

STATEMENT

**Cost of Power to Municipalities and Rates to Consumers for
for the Year 1938, in Urban Municipalities**

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to municipal- ity on a horse- power basis	Domestic service					
		Service charge per month*	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hrs. per month	Per kw-hr. per month			
	\$ c.	cents		cents	cents	\$ c.	%
Princeton.....	36.64	.....	60	3.3	1.2	1.67	10
Queenston.....	22.82	.....	60	3.0	1.3	1.11	10
Richmond.....	43.66	.....	35	5.0	1.5	1.95	10
Richmond Hill.....	28.42	33-66	60	2.0	0.8	0.83	10
Ridgetown.....	32.39	.....	60	2.3	0.8	0.83	10
Ripley.....	59.74	33-66	55	6.0	1.5	1.67	10
Riverside.....T	28.94	.....	60	3.9	1.3	0.83	10
Rockwood.....	32.60	.....	60	3.3	1.1	1.11	10
Rodney.....	40.45	.....	60	2.8	0.9	0.83	10
Rosseau.....	74.02	‡33	..	6.0	2.0	2.22	10
Russell.....	43.02	.....	55	5.0	1.2	1.39	10
St. Catharines.....C	20.40	.....	45-60	2.2	0.8	0.83	10
St. Clair Beach.....	35.02	.....	60	4.2	1.3	1.67	10
St. George.....	31.81	.....	60	3.2	1.1	1.11	10
St. Jacobs.....	26.81	.....	60	3.0	1.0	1.11	10
St. Marys.....T	28.88	.....	60	3.3	1.0	0.83	10
St. Thomas.....C	23.19	.....	60	2.4	0.8	0.83	10
Sarnia.....C	27.61	.....	60	2.6	0.8	0.83	10
Scarboro Twp.....	25.79	.....	60	2.9	1.1	0.83	10
Seaforth.....	30.37	.....	60	2.9	1.1	0.83	10
Shelburne.....	40.03	.....	50	4.0	1.0	1.11	10
Simcoe.....T	24.56	.....	60	2.3	0.8	0.83	10
Smiths Falls.....T	23.64	.....	55	3.2	1.0	0.83	10
Southampton.....	37.55	.....	40	3.8	1.4	1.11	10
Springfield.....	41.91	.....	60	3.6	1.1	1.11	10
Stamford Twp.....	18.44	.....	60	3.0	1.0	0.83	10
Stayner.....	34.30	.....	55	3.0	1.1	0.83	10
Stirling.....	26.15	.....	60	2.5	1.0	0.83	10
Stouffville.....	36.24	.....	60	3.2	1.1	0.83	10
Stratford.....C	24.93	.....	60	2.8	0.9	0.83	10
Strathroy.....T	26.66	.....	60	2.6	0.8	0.83	10
Streetsville.....	30.30	.....	55	3.8	1.0	0.83	10
Sunderland.....	50.45	.....	45	5.0	1.2	1.39	10
Sutton.....	38.31	.....	50	4.0	1.5	1.11	10
Swansea.....	26.35	33-66	60	2.0	1.3	0.83	10
Tara.....	37.88	33-66	40	4.0	1.8	1.11	10
Tavistock.....	28.86	.....	60	3.0	1.0	0.83	10
Tecumseh.....T	32.16	.....	60	4.0	1.1	1.11	10
Teeswater.....	45.49	.....	50	5.0	1.5	1.39	10
Thamesford.....	31.01	.....	60	2.7	0.9	1.11	10
Thamesville.....	33.29	.....	60	2.6	0.9	0.83	10
Theford.....	50.74	.....	55	5.2	1.3	1.39	10
Thorndale.....	41.15	.....	60	4.5	1.5	1.39	10
Thornton.....	54.70	.....	60	6.0	1.5	1.67	10
Thorold.....T	21.59	.....	60	2.2	0.8	0.83	10

*Where domestic service charge has not been abolished the charge is 33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when 2,000 watts or more.

“E”—Continued

Domestic Service—Commercial Light Service—Power Service
Served by The Hydro-Electric Power Commission

Commercial Light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours' monthly use of demand	Service charge per h.p. per month	First 50 hrs per month per kw-hr.	Second 50 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	\$ c.	%	\$ c.	\$ c.	cents	cents	cents	\$ c.	%	%
5	3.0	1.0	1.67	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.8	1.0	1.11	10	25.00	1.00	2.0	1.3	0.33	.....	.....	10
5	5.0	1.0	1.95	10	55.00	1.00	6.5	4.3	0.33	.....	.....	10
5	2.0	0.5	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	1.8	0.5	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	6.0	1.0	1.67	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
5	2.9	0.7	0.83	10	25.00	1.00	2.0	1.3	0.33	.....	.....	10
5	2.5	0.7	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.5	0.5	0.83	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	6.0	2.0	2.22	10	58.00	1.00	6.9	4.6	0.33	.....	.....	10
5	4.5	1.0	1.66	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
†5	1.5	1/3	0.83	10	14.00	1.00	1.1	0.7	\$0.33 } 0.16 }	.....	25	10
5	4.3	1.0	1.67	10	35.00	1.00	3.5	2.3		.....	.....	10
5	2.7	0.6	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	2.6	0.7	1.11	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	2.6	0.8	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	1.7	0.3	0.83	10	15.00	1.00	1.3	0.8	0.33	.....	25	10
5	1.9	0.4	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
5	2.2	0.5	0.83	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	2.2	0.7	0.83	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
5	2.5	0.9	1.11	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	1.8	0.4	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
5	2.0	0.6	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	3.0	0.8	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	3.0	1.0	1.11	10	34.00	1.00	3.4	2.2	0.33	.....	.....	10
5	2.0	0.5	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	2.3	0.9	0.83	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	2.0	1.0	0.83	10	23.00	1.00	2.1	1.4	0.33	.....	10	10
5	2.7	0.7	0.83	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	2.0	0.4	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	2.0	0.5	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	2.6	0.7	0.83	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	4.3	1.0	1.39	10	35.00	1.00	3.5	2.3	0.33	.....	.....	10
5	3.7	1.0	1.11	10	36.00	1.00	3.7	2.4	0.33	.....	.....	10
5	2.0	0.75	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	4.0	1.0	1.11	10	42.00	1.00	4.6	3.0	0.33	.....	.....	10
5	2.3	0.7	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	3.2	0.7	1.11	10	26.00	1.00	2.2	1.4	0.33	.....	.....	10
5	4.0	1.0	1.39	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	2.1	0.6	1.11	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	2.0	0.5	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	4.8	1.0	1.39	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
5	3.7	0.9	1.39	10	45.00	1.00	4.9	3.3	0.33	.....	.....	10
5	5.5	1.0	1.67	10	40.00	1.00	4.3	2.8	0.33	.....	.....	10
5	1.6	0.35	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10

†According to consumers' demand.

†Min. 500 watts.

\$0.33 cents per kw-hr for next 200 hours' use, plus 0.16 cents per kw-hr for all additional.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1938, in Urban Municipalities

Municipality	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month*	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hrs. per month	Per kw-hr. per month			
C—City T—Town (pop. 2,000 or more)							
	\$ c.	cents		cents	cents	\$ c.	%
Tilbury.....	32.06	.....	60	2.2	0.8	0.83	10
Tillsonburg.....T	26.72	.....	60	2.3	0.8	0.83	10
Toronto.....C	22.62	a3	..	b1.8	1.0	0.83	10
Toronto Twp.....	26.97	.....	60	3.0	1.0	1.11	10
Tottenham.....	65.25	.....	35	6.0	2.0	1.67	10
Trafalgar Twp. Area 1.	26.41	.....	60	3.1	1.7	10.83 } 2.22 }	10
Trafalgar Twp. Area 2.	27.84	.....	60	3.6	1.2	1.11	10
Trenton.....T	23.43	.....	50	3.0	1.0	0.83	10
Tweed.....	46.42	.....	50	4.5	1.2	1.11	10
Uxbridge.....	44.73	.....	50	3.6	1.2	1.11	10
Victoria Harbour.....	36.16	.....	60	3.0	1.0	1.11	10
Walkerton.....T	30.38	.....	50	3.6	1.1	1.11	10
Wallaceburg.....T	29.26	.....	60	2.6	0.8	0.83	10
Wardsville.....	46.66	33-66	50	6.0	1.8	1.67	10
Warkworth.....	38.48	.....	50	4.0	1.2	1.11	10
Waterdown.....	25.54	.....	60	2.6	1.0	0.83	10
Waterford.....	26.25	.....	60	2.4	0.9	0.83	10
Waterloo.....T	23.38	.....	60	2.3	0.9	0.83	10
Watford.....	41.36	.....	60	3.3	1.0	1.11	10
Waubashene.....	32.78	.....	55	3.0	1.0	1.11	10
Welland.....C	20.12	.....	60	2.8	0.9	0.83	10
Wellesley.....	40.39	.....	50	4.0	1.1	1.11	10
Wellington.....	35.63	33-66	50	2.5	1.25	0.83	10
West Lorne.....	34.52	.....	60	2.8	0.8	0.83	10
Weston.....T	22.84	.....	60	2.4	0.9	0.83	10
Westport.....	52.19	.....	40	6.0	2.0	2.22	10
Wheatley.....	39.89	.....	60	3.6	1.0	1.11	10
Whitby.....T	29.09	.....	60	2.8	1.0	0.83	10
Warton.....	47.76	.....	50	3.8	1.2	1.39	10
Williamsburg.....	27.58	.....	60	2.0	0.8	0.83	10
Winchester.....	29.71	.....	60	2.4	1.2	0.83	10
Windermere.....	47.89	†33	..	6.0	2.0	†2.22	10
Windsor.....C	24.44	.....	60	3.3	0.9	0.83	10
Wingham.....	44.70	.....	50	3.4	1.1	1.11	10
Woodbridge.....	26.83	.....	60	3.0	1.1	0.83	10
Woodstock.....C	23.71	.....	60	2.4	0.8	0.83	10
Woodville.....	52.54	.....	50	3.8	1.0	1.11	10
Wyoming.....	44.52	.....	60	3.3	0.9	1.11	10
York Twp.....	.....	33-66	60	2.0	1.3	0.83	10
Zurich.....	49.44	.....	60	4.2	1.0	1.39	10

*Where domestic service charge has not been abolished the charge is 33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when 2,000 watts or more.

aService charge per 100 sq. ft.

bPer kw-hr for first 3 kw-hrs per 100 sq. ft.

cFirst 90 hours' use 3 cents per kw-hr. Next 90 hours' use 1 cent per kw-hr.

“E”—Concluded

Domestic Service—Commercial Light Service—Power Service
Served by The Hydro-Electric Power Commission

Commercial Light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours' monthly use of demand	Service charge per h.p. per month	First 50 hrs per month per kw-hr.	Second 50 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	\$ c.	%	\$ c.	\$ c.	cents	cents	cents	\$ c.	%	%
5	1.7	0.4	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	1.8	0.4	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
..... c 3 & 1	1/3	0.83	10	.....	d { D.C.	3.0	1.2	0.60	.....	.....	.....	10
						{ A.C.	2.0	1.0	e 1/3	.....	.....	.....
									1/6	.....	.....	.....
5	2.2	0.6	1.11	10	22.00	1.00	1.9	1.3	0.33	.....	10	10
10	5.5	1.0	1.67	10	45.00	1.00	4.9	3.3	0.33	.....	.....	10
5	2.8	0.7	0.83	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.8	0.7	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.6	0.8	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	4.0	1.1	1.11	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	3.0	0.9	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.6	0.8	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.4	0.9	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.0	0.5	0.83	10	20.00	1.00	1.6	1.0	0.33	.....	10	10
5	6.0	1.0	1.67	10	46.00	1.00	5.1	3.4	0.33	.....	.....	10
5	3.0	1.0	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.0	0.5	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	1.9	0.6	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	1.9	0.4	0.83	10	18.00	1.00	1.9	1.2	0.33	.....	25	10
5	2.9	0.9	1.11	10	30.00	1.00	2.8	1.8	0.33	.....	.....	10
5	2.2	1.0	1.11	10	33.00	1.00	3.2	2.1	0.33	.....	.....	10
5	2.0	0.5	0.83	10	17.00	1.00	1.7	1.1	0.33	.....	25	10
5	3.5	1.0	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	2.5	1.0	0.83	10	36.00	1.00	3.7	2.4	0.33	.....	.....	10
5	2.3	0.5	0.83	10	27.00	1.00	2.3	1.5	0.33	.....	.....	10
5	1.6	0.4	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	6.0	1.0	2.22	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
5	3.2	0.9	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.3	0.6	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	3.8	0.8	1.39	10	38.00	1.00	4.0	2.6	0.33	.....	.....	10
5	2.0	0.8	0.83	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.0	0.8	0.83	10	24.00	1.00	2.3	1.5	0.33	.....	10	10
5	6.0	2.0	†2.22	10	50.00	1.00	5.7	3.8	0.33	.....	.....	10
5	2.4	0.6	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	2.8	0.8	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.4	0.6	0.83	10	19.00	1.00	2.0	1.4	0.33	.....	25	10
5	1.8	0.4	0.83	10	16.00	1.00	1.5	0.9	0.33	.....	25	10
5	2.8	0.8	1.11	10	28.00	1.00	2.5	1.6	0.33	.....	.....	10
5	3.0	0.8	1.11	10	32.00	1.00	3.1	2.0	0.33	.....	.....	10
5	2.0	0.75	0.83	10	21.00	1.00	1.8	1.1	0.33	.....	10	10
5	3.9	0.9	1.39	10	42.00	1.00	4.6	3.0	0.33	2.77	.....	10

dD.C. service charge \$1.50 per kw per month for first 7½ kw, plus \$1.05 per kw for all additional demand.

A.C. service charge \$1.10 per kw per month for first 7½ kw, plus \$0.90 per kw for all additional demand.

e1/3 cent per kw-hr for next 300 hours' use, plus 1/6 cent per kw-hr for all additional.

†Over 10 kilowatt.

†According to consumers' demand.

APPENDIX I

ACTS

CHAPTER 27

An Act to validate certain Contracts entered into by The Hydro-Electric Power Commission of Ontario

Assented to April 8th, 1938.

Session Prorogued April 8th, 1938.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

1. This Act may be cited as *The Power Contracts Validation Act, 1938*. Short title.

2. Notwithstanding anything contained in *The Power Commission Act, 1935*, or any other Act of this Legislature,— 1935, c. 53. Contracts declared legal and valid.

- (a) the contract between The Hydro-Electric Power Commission of Ontario and Gatineau Power Company and Gatineau Transmission Company dated the 14th day of December, 1937, relating to the sale to The Hydro-Electric Power Commission of Ontario of electrical power and energy with a periodicity of sixty (60) cycles per second set out in Schedule A hereto;
- (b) the contract between The Hydro-Electric Power Commission of Ontario and Gatineau Power Company dated the 28th day of December, 1927, being the first of the two contracts set out in Schedule B to *The Power Commission Act, 1935*, as varied by the contract referred to in clause a hereof
- (c) the contract between The Hydro-Electric Power Commission of Ontario and Gatineau Power Company and Gatineau Transmission Company dated the 14th day of December, 1937, relating to the sale to The Hydro-Electric

Power Commission of Ontario of electrical power and energy with a periodicity of twenty-five (25) cycles per second set out in Schedule B hereto;

- (d) the contract between The Hydro-Electric Power Commission of Ontario and Gatineau Power Company dated the 19th day of May, 1926, being the first of the six contracts set out in Schedule A to *The Power Commission Act, 1935*, as varied by the contract referred to in clause *c* hereof;
- (e) the contract between The Hydro-Electric Power Commission of Ontario, Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company Limited dated the 14th day of December, 1937, set out in Schedule C hereto;
- (f) the contract between The Hydro-Electric Power Commission of Ontario and Beauharnois Light, Heat and Power Company dated the 29th day of November, 1929, set out in Schedule C to *The Power Commission Act, 1935*, as varied by the contract referred to in clause *e* hereof;
- (g) the contract between The Hydro-Electric Power Commission of Ontario, Maclaren-Quebec Power Company and The James Maclaren Company Limited, dated the 14th day of December, 1937, set out in Schedule D hereto; and
- (h) the contract between The Hydro-Electric Power Commission of Ontario and The James Maclaren Company Limited dated the 20th day of December, 1930, being the first of the two contracts set out in Schedule E to *The Power Commission Act, 1935*, as varied by the contract referred to in clause *g* hereof;

and hereby ratified, confirmed and declared to be legal and valid.

Effect of
certain
Acts.

3. It is hereby declared that the rights of Gatineau Power Company and Gatineau Transmission Company under or arising out of the contract referred to in clause *a* of section 2 or the contract dated 28th December, 1927, referred to in clause *b* of section 2 as varied by the contract referred to in clause *a* of section 2, the rights of Gatineau Power Company and Gatineau Transmission Company under or arising out of the contract referred to in clause *c* of section 2 or the contract dated 19th of May, 1926, referred to in clause *d* of section 2 as varied by the contract referred to in clause *c* of section 2, the rights of Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company Limited under or arising out of the contract referred to in clause *e* of section 2 or the contract dated 29th November, 1929, referred to in clause *f* of section 2 as varied by the contract referred to in clause *e* of section 2, and the rights of Maclaren-Quebec Power Company and The James Maclaren Company Limited or either of them, under or arising out of the

contract referred to in clause *g* of section 2 or the contract dated 20th December, 1930, referred to in clause *h* of section 2 as varied by the contract referred to in clause *g* of section 2, shall in no way be limited or affected by anything contained in *The Power Commission Act, 1935, The Power Commission Amendment Act, 1937*, now contained in subsections 6, 7, 8 and 9 of section 6 of *The Power Commission Act, The Power Commission Declaratory Act, 1937*, or *The Privy Council Appeals Amendment Act, 1937*, of which section 2 is now contained in section 12 of *The Privy Council Appeals Act*.

4. This Act shall come into force on the day upon which it receives the Royal Assent. Commence-
ment of Act.

SCHEDULE "A"

THIS AGREEMENT dated this Fourteenth day of December, A.D. 1937,

BY AND BETWEEN:

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO,
hereinafter called the "Commission"

GATINEAU POWER COMPANY, a Quebec Corporation,
hereinafter called the "Power Company"

—and—

GATINEAU TRANSMISSION COMPANY, a Dominion Corporation,
hereinafter called the "Transmission Company"

WHEREAS the Commission and the Power Company heretofore executed an Indenture dated the 28th day of December, 1927 (hereinafter called the "Original 60 Cycle Contract"), relating to the delivery by the Power Company to the Commission of electrical power and energy with a periodicity of sixty (60) cycles per second upon terms set forth in said Indenture, and said parties executed another Indenture dated the same date supplementary to the first mentioned Indenture (hereinafter called the "Supplementary Agreement");

AND WHEREAS the Commission, the Power Company and the Transmission Company heretofore executed an Indenture dated the 8th day of February, 1936 (hereinafter called the "1936 60 Cycle Contract"), relating to the sale by the Power Company and delivery by the Transmission Company to the Commission of electrical power and energy with a periodicity of sixty (60) cycles per second upon terms set forth in said Indenture;

AND WHEREAS the parties desire to enter into this Agreement;

NOW THEREFORE THIS AGREEMENT WITNESSETH, that for the considerations herein contained the parties hereto covenant, promise and agree as follows:

1. (a) Subject to the provisions of Clause 1 (b), this Agreement shall be effective on and from the first day of December, 1937, and shall terminate on and from the first day of May, 1938, unless prior to said date the Legislature of the Province of Ontario shall have passed the Act provided for in Clause 1 (c) of this Agreement, and further, notwithstanding the passing of the said Act prior to said date, shall terminate on and from the first day of August 1938, if (i) prior to the fifteenth day of July 1938, the Contracts of even date herewith between the Commission, Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company Limited, and between the Commission, MacLaren-Quebec Power Company and The James MacLaren Company Limited have not become fully and unconditionally effective, and (ii) prior to the said first day of August 1938, the Power Company and the Transmission Company shall have given notice in writing to the Commission that this Agreement shall terminate;

1. (b) So long as this Agreement is subject to termination under the provisions of Clause 1 (a), the rights of the parties respectively under any other contract or contracts shall not be released or in any way affected by this Agreement, save during the period from the first day of December 1937 to the first day of May 1938, or the first day of August 1938, as the case may be, and in case this Agreement is terminated under the provisions of Clause 1 (a) the parties hereto shall revert as from the date on which this Agreement so terminates to their respective positions as though this Agreement had not been entered into, and all accounts between the parties for anything arising out of this Agreement shall be settled as of the date on which this Agreement so terminates;

1. (c) The Commission shall apply to the Legislature of the Province of Ontario at its session to be held first after the first day of January 1938 for an Act to ratify and confirm this Agreement and the Original 60 Cycle Contract as amended hereby and declaring that the rights of the Power Company and of the Transmission Company under or arising out of this Agreement or the Original 60 Cycle Contract as amended hereby shall in no way be limited or affected by anything contained in The Power Commission Act 1935, The Power Commission Amendment Act 1937, The Power Commission Declaratory Act 1937, or The Privy Council Appeals Amendment Act 1937, all Acts of the said Legislature.

2. Subject to the provisions of Clause 1 of this Agreement, (a) the Commission hereby releases the Power Company, and the Power Company hereby releases the Commission, from any and all claims under or in connection with the Original 60 Cycle Contract and the Supplementary Agreement in respect of any matters prior to the first day of December 1937 and (b) the Commission hereby releases the Power Company and the Transmission Company, and the Power Company and the Transmission Company hereby release the Commission, from any and all claims under or in connection with the 1936 60 Cycle Contract which have heretofore arisen or may hereafter arise.

3. Subject to the provisions of Clause 1 of this Agreement, the Original 60 Cycle Contract and the Supplementary Agreement are hereby amended by—

(i) striking out all the provisions of the Supplementary Agreement;

(ii) calling Gatineau Power Company the "Power Company" instead of "the Company" and referring to it as the "Power Company" in, and adding the Transmission Company as a party to and referring to it as the "Transmission Company" in, the Original 60 Cycle Contract;

(iii) striking out the third recital in the Original 60 Cycle Contract and substituting therefor the following:

"And whereas the Power Company is prepared to deliver to the Transmission Company for transmission and delivery to the Commission and the Transmission Company is prepared to deliver to the Commission at the point hereinafter provided electrical power and energy from the Power Company's developments on the Gatineau River and elsewhere in the Province of Quebec, and the Power Company and the Transmission Company are willing to enter into an agreement with the Commission for such purpose;"

(iv) striking out Clauses 1 to 15 both inclusive of the Original 60 Cycle Contract and substituting therefor Clauses 1 to 16 both inclusive set out in the 1936 60 Cycle Contract but with and subject to the following amendments thereto:

(A) Clause 3 (a) set out in the 1936 60 Cycle Contract is amended by adding thereto the following:—

"Provided, however, that if at any time or times hereafter subsequent to the 30th day of September, 1945, during the term of this Agreement a higher rate is paid by the Commission, directly or indirectly to any other corporation or person for electrical power (from water) generated in the Province of Quebec, or from Quebec water in the Ottawa River, or by virtue of Quebec water rights in the Ottawa River, for use in the Commission's Eastern Ontario System, then the rate payable under this Agreement during any such time shall be such higher rate; The Power Company and the Transmission Company acknowledge that the Commission has communicated to them the terms of the Commission's contracts with:—

(a) Maclaren-Quebec Power Company and The James Maclaren Company Limited dated 14th December 1937 together with the contract amended thereby, viz., the contract dated 20th December 1930 between the Commission and the said The James Maclaren Company Limited, the contract dated 14th January 1931 between the Commission, the said The James Maclaren Company Limited and the said Maclaren-Quebec Power Company, and the contract dated 1st February 1936 between the Commission, the said Maclaren-Quebec Power Company and the said The James Maclaren Company Limited;

(b) Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company Limited dated 14th December 1937 together with the contract dated 29th November 1929 between the Commission and the said Beauharnois Light, Heat and Power Company amended thereby; and

(c) Ottawa Valley Power Company dated 4th February 1937 together with the following two contracts amended thereby, viz., the "Power Contract" dated 15th February 1930 between the Commission and Chats Falls Power Company (the former name of said Ottawa Valley Power Company) and the so-called "Operating Agreement" dated 24th February 1931 between the Commission and said Ottawa Valley Power Company;

and it is agreed that the carrying out and performance by the Commission of the terms (other than terms to the same effect as the foregoing proviso) of any of the said contracts dated earlier than a date in 1937 as so amended respectively by the said contracts dated in 1937 and/or of the said contract dated 1st February 1936 between the Commission the said Maclaren-Quebec Power Company and the said The James Maclaren Company Limited shall not be deemed to constitute payment directly or indirectly by the Commission of a higher rate within the meaning of the foregoing proviso;"

- (B) Clause 3 (j) set out in the 1936 60 Cycle Contract is struck out;
- (C) Clause 4 (a) set out in the 1936 60 Cycle Contract is amended by inserting after the word "defined" in the first paragraph thereof the words "and determined" and by striking out the second and third paragraphs thereof and substituting therefor the following:

"(1) The Contract Demand shall be Forty-two Thousand horsepower (42,000 h.p.) from the first day of December 1937 to the thirtieth day of September 1938, except that at any time and from time to time by written order, but not otherwise, given by the Commission to the Power Company the said amount of Forty-two Thousand horsepower (42,000 h.p.) may be increased up to but not in excess of Sixty Thousand horsepower (60,000 h.p.) to take effect as the Contract Demand from the day specified in such written order and to continue throughout the remainder of the term of this Agreement unless and until increased pursuant to the provisions of paragraph (2) next following;

(2) The Contract Demand shall be Sixty Thousand Horsepower (60,000 h.p.) from the first day of October 1938 and shall continue at Sixty Thousand horsepower (60,000 h.p.) throughout the remainder of the term of this Agreement;"

and by inserting "(3)" as the number of the fourth paragraph of the said Clause 4 (a) as it appears in the 1936 60 Cycle Contract and by striking out the last paragraph of the said Clause 4 (a);

- (D) Clause 14 set out in the 1936 60 Cycle Contract is struck out and the following substituted therefor:—

"This Agreement shall continue in force to and including the 30th day of November 1970 and shall bind and enure to the benefit of the respective successors of the parties;"

4. Subject to the provisions of Clause 1 of this Agreement, the Original 60 Cycle Contract as hereby amended is hereby ratified and confirmed and shall continue to be in full force and effect.

5. Subject to the provisions of Clause 1 of this Agreement, execution of this Agreement by the Transmission Company shall for all purposes be deemed to be the execution by it of the Original 60 Cycle Contract subject to the terms of this Agreement and with the amendments herein contained.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed under their corporate seals and the hands of their duly authorized officers:

SIGNED, SEALED AND DELIVERED In the presence of W. GEORGE HANNA (COMMISSION SEAL)	{	THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO (Sgd.) T. H. HOGG, <i>Chairman.</i> (Sgd.) R. T. JEFFERY, <i>Acting Secretary and Controller.</i>
 GLYN OSLER. (POWER COMPANY SEAL)		GATINEAU POWER COMPANY. (Sgd.) G. GORDON GALE, <i>President.</i> (Sgd.) J. R. BINKS, <i>Secretary.</i>
 GLYN OSLER. (TRANSMISSION CO. SEAL)	{	GATINEAU TRANSMISSION COMPANY. (Sgd.) G. GORDON GALE, <i>President.</i> (Sgd.) J. R. BINKS, <i>Secretary.</i>

SCHEDULE "B"

THIS AGREEMENT dated this Fourteenth day of December, A.D. 1937:

BY AND BETWEEN:

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
(hereinafter called the "Commission")

GATINEAU POWER COMPANY, a Quebec Corporation
(hereinafter called the "Power Company")

—and—

GATINEAU TRANSMISSION COMPANY, a Dominion Corporation
(hereinafter called the "Transmission Company")

WHEREAS the Commission and the Power Company heretofore executed an Indenture dated the 19th day of May 1926 (hereinafter called the "Original 25 Cycle Contract") relating to the delivery by the Power Company to the Commission of electrical power and energy with a periodicity of twenty-five (25) cycles per second upon terms set forth in said Indenture, and said parties executed five (5) other Indentures supplementary to the first mentioned Indenture (hereinafter collectively called the "Supplementary Agreements");

AND WHEREAS the Commission, the Power Company and the Transmission Company heretofore executed an Indenture dated the 8th day of February 1936 (hereinafter called the "1936 25 Cycle Contract") relating to the sale by the Power Company and delivery by the Transmission Company to the Commission of electrical power and energy with a periodicity of twenty-five (25) cycles per second upon terms set forth in said Indenture;

AND WHEREAS the parties desire to enter into this Agreement;

NOW THEREFORE THIS AGREEMENT WITNESSETH that for the considerations herein contained the parties hereto covenant, promise and agree as follows:—

1. (a) Subject to the provisions of Clause 1 (b) this Agreement shall be effective on and from the 1st day of December 1937, and shall terminate on and from the 1st day of May 1938, unless prior to said date the Legislature of the Province of Ontario shall have passed the Act provided for in Clause 1 (c) of this Agreement, and further, notwithstanding the passing of the said Act prior to said date, shall terminate on and from the 1st day of August 1938, if (i) prior to the 15th day of July 1938, the Contracts of even date herewith between the Commission, Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company Limited, and between the Commission, Maclaren-Quebec Power Company and The James Maclaren Company Limited have not become fully and unconditionally effective, and (ii) prior to the said first day of August 1938, the Power Company and the Transmission Company shall have given notice in writing to the Commission that this Agreement shall terminate;

1. (b) So long as this Agreement is subject to termination under the provisions of Clause 1 (a), the rights of the parties respectively under any other contract or contracts shall not be released or in any way affected by this Agreement save during the period from the 1st day of December 1937 to the 1st day of May 1938, or the 1st day of August 1938, as the case may be, and in case this Agreement is terminated under the provisions of Clause 1 (a) the parties hereto shall revert as from the date on which this Agreement so terminates to their respective positions as though this Agreement had not been entered into, and all accounts between the parties for anything arising out of this Agreement shall be settled as of the date on which this Agreement so terminates;

1. (c) The Commission shall apply to the Legislature of the Province of Ontario at its session to be held first after the 1st day of January 1938 for an Act to ratify and confirm this Agreement and the Original 25 Cycle Contract as amended hereby and declaring that the rights of the Power Company and of the Transmission Company under or arising out of this Agreement or the Original 25 Cycle Contract as amended hereby shall in no way be limited or affected by anything contained in The Power Commission Act 1935, The Power Commission Amendment Act 1937, The Power Commission Declaratory Act 1937, or The Privy Council Appeals Amendment Act 1937, all Acts of the said Legislature:

2. Subject to the provisions of Clause 1 of this Agreement, (a) the Commission hereby releases the Power Company, and the Power Company hereby releases the Commission, from any

and all claims under or in connection with the Original 25 Cycle Contract and the Supplementary Agreements in respect of any matters prior to the first day of December 1937 and (b) the Commission hereby releases the Power Company and the Transmission Company, and the Power Company and the Transmission Company hereby release the Commission, from any and all claims under or in connection with the 1936 25 Cycle Contract which have heretofore arisen or may hereafter arise:

3. Subject to the provisions of Clause 1 of this Agreement, the Original 25 Cycle Contract and the Supplementary Agreements are hereby amended by—

(i) Striking out all the provisions of the Supplementary Agreements;

(ii) Calling Gatineau Power Company the “Power Company” instead of “the Company” and referring to it as the “Power Company” in, and adding the Transmission Company as a party to, and referring to it as the “Transmission Company” in, the Original 25 Cycle Contract;

(iii) Striking out the third recital of the Original 25 Cycle Contract and substituting therefor the following:—

“And Whereas the Power Company is prepared to deliver to the Transmission Company for transmission and delivery to the Commission and the Transmission Company is prepared to deliver to the Commission at the point hereinafter provided, electrical power and energy from the Power Company’s developments on the Gatineau River in the Province of Quebec, and the Power Company and the Transmission Company are willing to enter into an agreement with the Commission for such purpose;” and

(iv) Striking out Clauses 1 to 12 both inclusive of the Original 25 Cycle Contract and substituting therefor Clauses 1 to 16 both inclusive set out in the 1936 25 Cycle Contract but with and subject to the following amendments thereto:—

(A) Clause 3 (a) set out in the 1936 25 Cycle Contract is amended by adding thereto the following:—

“Provided, however, that if at any time or times hereafter subsequent to the 30th day of September, 1945, during the term of this Agreement a higher rate is paid by the Commission, directly or indirectly to any other corporation or person for electrical power (from water) generated in the Province of Quebec, or from Quebec water in the Ottawa River or by virtue of Quebec water rights in the Ottawa River, for use in the Commission’s Niagara System, then the rate payable under this Agreement during any such time shall be such higher rate; the Power Company and the Transmission Company acknowledge that the Commission has communicated to them the terms of the Commission’s contracts with:—

(a) Maclaren-Quebec Power Company and The James Maclaren Company Limited dated 14th December 1937 together with the contract amended thereby, viz., the contract dated 20th December 1930 between the Commission and the said The James Maclaren Company Limited, the contract dated 14th January 1931 between the Commission, the said The James Maclaren Company Limited and the said Maclaren-Quebec Power Company and the contract dated 1st February 1936 between the Commission, the said Maclaren-Quebec Power Company and the said The James Maclaren Company Limited;

(b) Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company Limited dated 14th December 1937 together with the contract dated 29th November 1929 between the Commission and the said Beauharnois Light, Heat and Power Company amended thereby; and

(c) Ottawa Valley Power Company dated 4th February 1937 together with the following two contracts amended thereby, viz., the “Power Contract” dated 15th February 1930 between the Commission and Chats Falls Power Company (the former name of said Ottawa Valley Power Company) and the so-called “Operating Agreement” dated 24th February 1931 between the Commission and said Ottawa Valley Power Company;

and it is agreed that the carrying out and performance by the Commission of the terms (other than terms to the same effect as the foregoing proviso) of any of the said contracts dated earlier than a date in 1937 as so amended respectively by the said contracts dated in 1937 and/or of the said contract dated 1st February 1936 between the Commission, the said Maclaren-Quebec Power Company and the said The James Maclaren Company Limited, shall not be deemed to constitute payment directly or indirectly by the Commission of a higher rate within the meaning of the foregoing proviso;”

(B) Clause 3 (j) set out in the 1936 25 Cycle Contract is struck out;

- (C) Clause 4 (a) set out in the 1936 25 Cycle Contract is amended by inserting after the word "defined" in the first paragraph thereof the words "and determined" and by striking out the second, third and fourth paragraphs thereof and substituting therefor the following:—

"(1) The Contract Demand shall be One Hundred and Sixty-five Thousand horsepower (165,000 h.p.) from the First day of December 1937 to the 31st day of October 1938, except that at any time and from time to time by written order, but not otherwise, given by the Commission to the Power Company the said amount of One Hundred and Sixty-five Thousand Horsepower (165,000 h.p.) may be increased up to but not in excess of Two Hundred and Sixty Thousand Horsepower (260,000 h.p.) to take effect as the Contract Demand from the day specified in such written order and to continue throughout the remainder of the term of this Agreement unless and until increased pursuant to the provisions of paragraph (2) or paragraph (3) next following:

(2) The Contract Demand shall be Two Hundred Thousand horsepower (200,000 h.p.) (or such greater amount as the Commission may have ordered pursuant to the provisions of paragraph (1) next above) from the first day of November 1938 to the 31st day of October 1939, except that at any time and from time to time by written order, but not otherwise, given by the Commission to the Power Company the said amount of Two Hundred Thousand horsepower (200,000 h.p.) (or such greater amount as the Commission may have ordered pursuant to the provisions of paragraph (1) next above) may be increased up to but not in excess of Two Hundred and Sixty Thousand horsepower (260,000 h.p.) to take effect as the Contract Demand from the day specified in such written order and to continue throughout the remainder of the term of this agreement unless and until increased pursuant to the provisions of paragraph (3) next following:

(3) The Contract Demand shall be Two Hundred and Sixty Thousand horsepower (260,000 h.p.) from the 1st day of November 1939 and shall continue at Two Hundred and Sixty Thousand horsepower (260,000 h.p.) throughout the remainder of the term of this Agreement;"

and by inserting "(4)" as the number of the last paragraph of the said Clause 4 (a) as it appears in the 1936 25 Cycle Contract;

- (D) Clause 14 set out in the 1936 25 Cycle Contract is struck out and the following substituted therefor:—

"This Agreement shall continue in force to and including the 30th day of November 1970, and shall bind and enure to the benefit of the respective successors of the parties."

4. Subject to the provisions of Clause 1 of this Agreement, the Original 25 Cycle Contract as hereby amended is hereby ratified and confirmed and shall continue to be in full force and effect:

5. Subject to the provisions of Clause 1 of this Agreement, execution of this Agreement by the Transmission Company shall for all purposes be deemed to be the execution by it of the Original 25 Cycle Contract subject to the terms of this Agreement and with the amendments herein contained:

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed under their corporate seals and the hands of their duly authorized officers.

SIGNED, SEALED AND DELIVERED
In the presence of

W. GEORGE HANNA
(COMMISSION SEAL)

GLYN OSLER.
(POWER COMPANY SEAL)

GLYN OSLER.
(TRANSMISSION CO. SEAL)

{ THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
(Sgd.) T. H. HOGG,
Chairman.
(Sgd.) R. T. JEFFERY,
Act. Secretary and Controller.

{ GATINEAU POWER COMPANY.
(Sgd.) G. GORDON GALE,
President.
(Sgd.) J. R. BINKS,
Secretary.

{ GATINEAU TRANSMISSION COMPANY.
(Sgd.) G. GORDON GALE,
President.
(Sgd.) J. R. BINKS,
Secretary.

SCHEDULE "C"

THIS AGREEMENT made this Fourteenth day of December A.D. 1937,

BETWEEN:

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
hereinafter called the "Commission"

OF THE FIRST PART

BEAUHARNOIS LIGHT, HEAT AND POWER COMPANY,
a Quebec Corporation, hereinafter called the "Power Company"

OF THE SECOND PART

—and—

COTEAU RAPIDS TRANSMISSION COMPANY LIMITED,
a Dominion Corporation, hereinafter called the "Transmission Company"

OF THE THIRD PART.

WHEREAS the Commission and the Power Company heretofore executed an Agreement dated the 29th day of November 1929, (hereinafter called the "Power Contract") relating to the delivery to the Commission by the Power Company (therein called the "Company") of electrical power and energy upon the terms set forth in the said Power Contract;

AND WHEREAS the Transmission Company is incorporated under the provisions of The Companies Act (Canada) with power to transmit electrical power and energy;

AND WHEREAS the parties hereto have mutually agreed to certain modifications of the Power Contract;

NOW THEREFORE THIS AGREEMENT WITNESSETH that for the considerations contained herein, the parties hereto agree as follows:

1. The Power Contract is hereby amended as follows:

(a) Clauses 1 (a), 1 (b) and 1 (c) are amended by striking out the words "and thereafter so long as this agreement shall continue in force" and substituting therefor the words "until the thirty-first day of October 1935," and Clause 1 (c) is further amended by striking out the words "until such contract demand is increased as provided in sub-clause (d) next following" and substituting therefor the words "until the thirty-first day of October 1935."

(b) Clauses 1 (d), 1 (e) and 1 (f) are struck out and the following substituted therefor as clause 1 (d):

"To keep available for delivery to the Commission and to deliver to the Commission, from time to time, when and as required by the Commission, commencing on the Fourteenth day of December 1937 and thereafter so long as this agreement shall remain in force, the hereinafter mentioned quantities of electrical power and energy on the conditions herein contained: A minimum of one hundred and twenty-five thousand horsepower (125,000 h.p.) which shall constitute the minimum contract demand until such minimum contract demand is increased; the said minimum contract demand shall be increased as follows:—

On or before the first day of November 1938, to a minimum amount of one hundred and fifty thousand horsepower (150,000 h.p.);

On or before the first day of November 1941, to a minimum amount of two hundred thousand horsepower (200,000 h.p.);

On or before the first day of November 1942, to a minimum amount of two hundred and twenty-five thousand horsepower (225,000 h.p.);
and—

On or before the first day of November 1943, to a minimum amount of two hundred and fifty thousand horsepower (250,000 h.p.).

The respective progressively increasing minimum amounts of horsepower hereinbefore mentioned shall constitute the respective minimum contract demands until a minimum amount of two hundred and fifty thousand horsepower (250,000 h.p.) has been reached, which last men-

tioned amount of horsepower shall constitute the maximum contract demand during the term of this agreement; provided however that should the minimum amounts of horsepower hereinbefore mentioned or any of them be at any time or from time to time increased by the Commission by order in writing the minimum contract demand or contract demands, as the case may be, shall be increased by a corresponding amount or amounts up to a maximum of two hundred and fifty thousand horsepower (250,000 h.p.) and shall not be thereafter decreased; the respective minimum contract demands shall not be increased before the dates above set out, except upon order in writing by the Commission."

(c) Clause 2 (c) is amended by striking out the words "Eighty-five per cent (85%)" and substituting therefor the words "Seventy-five per cent (75%)," and by striking out the words "One Hundred and Six and Fifty-three Hundredths Kilowatt-hours (106.53 kw.h.)" and substituting therefor the words "Ninety-four Kilowatt-hours (94 kw.h.)."

(d) Clause 3 (a) is amended by striking out the words "to 1st October 1935" following the words "1st October 1934," and substituting therefor the words "to 31st October 1935," and by striking out the words "Two Hundred and Forty-five Thousand Dollars (\$245,000.00) per month from 1st October 1935 to 1st October 1936; Three Hundred and Twelve Thousand Five Hundred Dollars (\$312,500.00) per month from 1st October 1936 and thereafter so long as this agreement shall continue in force; the amount of dollars per month is obtained by multiplying the amount of the then contract demand as determined in Clause 1 hereof, by one and one-quarter ($1\frac{1}{4}$)" and substituting therefor the words:—

"To pay to the Company in monthly payments subsequent to January first 1938, for all power and energy under this contract, an amount in dollars per month obtained by multiplying the amount of the contract demand established from time to time under clause 1 of this Contract, by twenty-five twenty-fourths ($25/24$ ths) which is at the rate of twelve dollars and fifty cents (\$12.50) per annum per horsepower of contract demand; provided, however, that such monthly payments shall not at any time or times be less than the amount in dollars obtained by multiplying the minimum contract demand, as determined from time to time in Clause 1 hereof, by twenty-five twenty-fourths ($25/24$ ths); and provided also that the Commission shall pay to the Company for electrical power and energy kept available for delivery and delivered to the Commission from Fourteenth day of December 1937 to the first day of January 1938, eighteen thirty firsts ($18/31$ sts) of twenty-five twenty-fourths ($25/24$ ths) of the contract demand as determined under Clause 1 hereof," and by adding at the end of Clause 3 (a) the following words:

"Provided, however, that if at any time or times hereafter subsequent to the 30th day of September 1945, during the term of this Contract, a higher rate is paid by The Hydro-Electric Power Commission of Ontario, directly or indirectly, to any other corporation or person for electrical power (from water) generated in the Province of Quebec, or from Quebec water in the Ottawa River or by virtue of Quebec water rights in the Ottawa River, for use in the Niagara System, then the rate payable under this Contract during any such time shall be such higher rate; the Power Company and the Transmission Company acknowledge that the Commission has communicated to them the terms of the Commission's contracts with (a) Gatineau Power Company and Gatineau Transmission Company, (b) Maclaren-Quebec Power Company and The James Maclaren Company Limited, all dated 14th day of December 1937 together with the several earlier contracts amended thereby and the 1936 contracts with the said Companies, and (c) the Commission's contract with Ottawa Valley Power Company dated 4th February 1937 together with the earlier contracts with said Company amended thereby, and it is agreed that the carrying out and performance by the Commission of the terms of any of the said earlier contracts as so amended respectively by agreements made in 1937 and/or of the said 1936 contracts with the said Gatineau Companies and with the said Maclaren Companies shall not be deemed to constitute payment directly or indirectly by the Commission of a higher rate within the meaning of this proviso;"

(e) Clause 3 (b) is amended by striking out the words and figures "Six per cent (6%)" and substituting therefor "Five per cent (5%)"

(f) Clause 3 (d) is amended by striking out the words "clauses 1 (a), 1 (b), 1 (c), 1 (d), 1 (e) and 1 (f)" and substituting therefor the words "Clause 1";

(g) Clause 5 (e) is amended by striking out the figures "106.53" and substituting therefor the figures "94," and by striking out the words "eighty-five per cent (85%)" and substituting therefor the words "seventy-five per cent (75%);"

(h) Clause 9 is struck out and the following substituted therefor: "The rates to be paid and payments to be made by the Commission as set out in Clause 3 shall (except as to any taxes imposed by the Province of Ontario) include all compensation to the Company for all taxes, levies, rentals, royalties, license fees and charges that may be levied, assessed or imposed by the Dominion, Provincial or Municipal or any other authority for or during the term of this agreement or any part thereof";

(i) Clause 10 is struck out and the following substituted therefor: "This Agreement shall be binding upon both parties hereto upon its execution and shall continue in force beginning on the first day of October 1932 and extending until November 1st 1976; this Agreement may be extended up to June 23rd, A.D. 2003, upon mutual agreement of the parties hereto";

2. The Transmission Company by these presents takes cognizance of the obligations of the Power Company under the Power Contract as amended by this agreement and, with the consent of the Power Company, hereby covenants and agrees with the Commission to receive from the Power Company at the exterior face of the wall of the power house of the Power Company and to transmit over its transmission line and/or lines and to deliver to the Commission when and as required by the Commission the electrical power and energy covered by the Power Contract as so amended upon and subject to the terms thereof;

3. The Transmission Company covenants and agrees that it will maintain in efficient operating condition the existing transmission line and facilities incidental thereto, and to provide as and when required and thereafter maintain in efficient operating condition, a second transmission line of the same design and capacity and running between the same points as the existing transmission line;

4. The Power Company covenants and agrees that the Transmission Company which is a wholly owned subsidiary will fulfil its obligations to the Commission under this agreement and that it will duly provide and make available the electrical power and energy required to enable the covenants of the Transmission Company to be duly fulfilled but nothing in this clause or in clauses 2 and 3 hereof shall relieve the Power Company of any of its obligations to the Commission under any other clause of this agreement or the Power Contract as amended hereby;

5. If this agreement be finally ratified as hereinafter provided, then (a) all accounts, charges and claims of every kind between the Commission and the Power Company arising out of or connected with the Power Contract up to the date of this agreement or for the inspection of materials and other engineering services are hereby cancelled; (b) the monies paid into court in any litigation between any of the parties hereto shall be paid out of court to the parties respectively, who paid in the same, and the parties hereto will secure and furnish all necessary consents therefor;

6. The present appeal to His Majesty's Privy Council now pending between the Commission and the Power Company shall be postponed; and all proceedings in any other actions pending between any of the parties shall be stayed until the final ratification of this agreement or until the time fixed therefor has expired;

7. Upon the said ratification of this agreement the said appeal and all other litigation between the parties hereto or any of them shall be discontinued without costs and the Power Company shall have no claim for any money payment against the Commission under the said judgment appealed from and will give the Commission a satisfaction piece or other release in respect of any money directed to be paid thereunder;

8. This agreement shall be effective on and after the date hereof, but shall cease to be effective on and after the first day of July 1938, unless prior to that date the Trustee for the bondholders of the Power Company shall have given a valid consent to the modifications and changes in the Power Contract as herein provided, and this agreement and the original contract as amended by this agreement shall have been ratified by Act of the Ontario Legislature which said ratifying Act shall also declare that the rights of the Power Company under or arising out of this agreement or the original contract as amended hereby shall in no way be limited or affected by anything contained in Chapter 53 of the Statutes of Ontario, 25 George V, or in any of the three Acts already passed and/or proclaimed in the year 1937 known as "The Power Commission Amendment Act, 1937," "The Power Commission Declaratory Act, 1937," and "The Privy Council Appeals Amendment Act, 1937";

9. Pending such consent and ratification, the Power Contract, as hereby amended shall be in full force and effect, but if such consent and ratification be not finally obtained by the first day of July 1938, then the parties hereto shall revert to their respective positions as though this agreement had not been entered into, but all accounts for anything arising out of this agreement shall be settled as of the first day of July 1938;

10. The parties further agree that in case any of them shall at any time deem it advisable to obtain further legislative or other authority or power, to remove any doubt that may exist in regard to the power of the parties or any of them to enter into and perform this agreement and the agreement between them herein referred to, the other parties hereto shall, at the request of such first mentioned party, join in any application for and co-operate in obtaining such further

legislative or other authority or power, but shall not be required to bear any part of the expense of such application.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed under their corporate seals, attested by the signatures of their proper officers duly authorized thereto:

SIGNED, SEALED AND DELIVERED
In the presence of

W. GEORGE HANNA
(COMMISSION SEAL)

R. A. C. HENRY.
(POWER COMPANY SEAL)

R. A. C. HENRY.
(TRANSMISSION CO. SEAL)

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO.

(Sgd.) T. H. HOGG,
Chairman.
(Sgd.) R. T. JEFFERY,
Acting Secretary and Controller.

BEAUHARNOIS LIGHT, HEAT AND POWER COMPANY.

(Sgd.) GEO. H. MONTGOMERY,
Vice-President.
(Sgd.) C. C. PARKES,
Secretary.

COTEAU RAPIDS TRANSMISSION COMPANY LIMITED.

(Sgd.) GEO. H. MONTGOMERY,
Vice-President.
(Sgd.) C. C. PARKES,
Secretary.

SCHEDULE "D"

THIS AGREEMENT dated this Fourteenth day of December A.D. 1937,

BETWEEN:

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO,
hereinafter called the "Commission"

MACLAREN-QUEBEC POWER COMPANY, a Quebec Corporation,
hereinafter called the "Power Company"

—and—

THE JAMES MACLAREN COMPANY LIMITED, a Dominion Corporation,
hereinafter called the "Transmission Company."

WHEREAS the Commission and the Transmission Company heretofore executed an Indenture dated the 20th day of December 1930, hereinafter called the "Original Contract," relating to the delivery by the Transmission Company to the Commission of electrical power and energy upon the terms set forth in said Indenture;

AND WHEREAS the Transmission Company, the Power Company and the Commission heretofore executed an Indenture dated the 14th day of January 1931, hereinafter called the "Transfer Agreement," whereby, among other things, the Power Company acquired the rights and assumed the obligations of the Transmission Company under the Original Contract;

AND WHEREAS the Commission, the Power Company and the Transmission Company heretofore executed an Indenture dated the 1st day of February 1936, hereinafter called the "1936 Contract," relating to the sale by the Power Company and delivery by the Transmission Company to the Commission of electrical power and energy upon the terms set forth in said Indenture;

AND WHEREAS the parties desire to enter into this agreement;

NOW THEREFORE THIS AGREEMENT WITNESSETH that for the considerations herein contained the parties hereto covenant, promise and agree as follows:—

1. The provisions of the Transfer Agreement shall not apply to the Original Contract as amended hereby;

2. The Original Contract is hereby amended as follows:

(i) The James Maclaren Company Limited is called the "Transmission Company" instead of the "Company" and is made the party of the Third Part, and the Maclaren-Quebec Power Company is called the "Power Company" and is added as party of the Second Part to the Original Contract;

(ii) The second and third recitals are struck out and the following substituted therefor:

"And Whereas the Transmission Company is duly incorporated under the laws of the Dominion of Canada with power to produce and sell electrical power and energy;

And Whereas the Power Company is prepared to deliver electrical power and energy to the Transmission Company for transmission to the Commission as hereinafter provided and to guarantee to the Commission the performance by the Transmission Company of all the obligations of the Transmission Company to the Commission under this Agreement;"

(iii) Clauses 1 to 12 both inclusive and Clause 14 of the Original Contract are struck out and there are substituted therefor Clauses 1 to 17 both inclusive and Clause 19 of the 1936 Contract but with and subject to the following amendments:

(A) Clause 1 (a) is struck out and the following substituted therefor:—

"(a) To keep available for delivery and to deliver to the Transmission Company for transmission and delivery to the Commission, when and as required by the Commission on the conditions herein contained commencing on the Fourteenth day of December 1937 and thereafter so long as this Agreement shall remain in force, the hereinafter mentioned quantities of electrical power and energy;

A minimum of Forty Thousand horsepower (40,000 h.p.) which shall constitute the minimum contract demand until such minimum contract demand is increased as herein provided;

The said minimum contract demand shall be increased as follows:

On the first day of November 1938 to a minimum contract demand of Sixty Thousand horsepower (60,000 h.p.);

On the first day of November 1940 to a minimum contract demand of Eighty Thousand horsepower (80,000 h.p.);

On the first day of November 1944 to a contract demand of One Hundred Thousand horsepower (100,000 h.p.);

The contract demand may with the consent of the Power Company be increased by the Commission by written order beyond the said minimum contract demands but the contract demand shall not be increased beyond the said minimum contract demands except upon an order in writing by the Commission and in any event shall not be increased beyond the said contract demand of One Hundred Thousand horsepower (100,000 h.p.);

Whenever the contract demand shall have been increased as above provided it shall not thereafter be decreased and shall remain the contract demand during the remainder of the term of this Agreement unless further increased;"

(B) Clause 3 (a) is amended by adding thereto the following:—

"Provided, however, that if at any time or times hereafter subsequent to the 30th day of September 1945 during the term of this Contract a higher rate is paid by the Commission directly or indirectly to any other corporation or person for electrical power (from water) generated in the Province of Quebec, or from Quebec water in the Ottawa River or by virtue of Quebec water rights in the Ottawa River, for use in the Commission's Niagara System, then the rate payable under this Contract during any such time shall be such higher rate; the Power Company and the Transmission Company acknowledge that the Commission has communicated to them the terms of the Commission's contracts with (a) Gatineau Power Company and Gatineau Transmission Company, (b) Beauharnois Light, Heat and Power Company and Coteau Rapids Transmission Company Limited, all dated 14th day of December 1937, together with the earlier contracts with the said Companies amended thereby and the 1936 contracts with Gatineau Power Company and Gatineau Transmission Company and (c) the Commission's contracts with Ottawa Valley Power Company dated 4th February 1937, together with the earlier contracts with the said Company amended thereby, and it is agreed that the carrying out and performance by the Commission of the terms of any of the said earlier contracts as so amended, respectively, by agreements made in 1937 and/or of the said 1936 contracts with the said Gatineau Companies shall not be deemed to constitute payment directly or indirectly by the Commission of a higher rate within the meaning of this proviso;"

(C) Clause 10 is amended by inserting after the word "energy" in the twenty-fourth line of the said Clause the words "from the Masson Generating Station of the Power Company" and by inserting after the words "Transmission Company" in the twenty-sixth line of the said Clause the words "or the use of such power or energy by the Power Company for its own purposes other than for the maintenance or operation of its power plant and system";

(D) Clause 14 is struck out and the following substituted therefor:—

"This Agreement shall continue in effect until the 31st day of October, A.D. 1970;"

(iv) Clause 13 of the Original Contract is re-numbered 18 and is amended by inserting the word "Power" before the word "Company" wherever the word "Company" appears in the said clause;

(v) Clause 20 is added and shall read as follows:—

"This Agreement shall extend to, be binding upon and enure to the benefit of the successors and assigns of the parties hereto respectively but any assignment other than an assignment to an assignee who shall have complied with Clause 18 shall be subject to the consent in writing of the Commission, which consent shall not be unreasonably withheld;

3. Execution of this Agreement by the several parties hereto shall for all purposes be deemed to be the execution by each of them of the Original Contract subject to the terms of this Agreement and with the amendments herein contained:

4. If this Agreement be finally ratified as hereinafter provided, then there are hereby cancelled all accounts, charges and claims of every kind between the Commission on the one hand and the Power Company and/or the Transmission Company on the other hand arising out of or connected with (a) the Original Contract up to the date of this Agreement; (b) the 1936 Contract at any time whether heretofore or hereafter except as to current accounts thereunder for power delivered and taken subsequent to the First of November 1937 up to the date of this Agreement:

5. This Agreement shall be effective on and from the date hereof but shall cease to be effective on and after the first day of July 1938 unless prior to that date (a) this Agreement and the Original Contract as amended by this Agreement shall have been ratified by Act of the Ontario Legislature, which said ratifying Act shall also declare that the rights of the Power Company and/or the Transmission Company shall in no way be limited or affected by anything contained in The Power Commission Act 1935, Chapter 53, The Power Commission Declaratory Act 1937, Chapter 58, The Power Commission Amendment Act 1937, Chapter 59, or the Privy Council Appeals Amendment Act 1937, Chapter 62, all Acts of the Ontario Legislature; (b) the Trustee for the bondholders of the Power Company shall have given valid consent to this Agreement:

6. Pending such ratification and consent this Agreement and the Original Contract as amended by this Agreement shall be in full force and effect, but if the said ratification and consent be not finally obtained by the first day of July 1938, then the parties hereto shall revert to their respective positions as though this Agreement had not been entered into but all accounts between the parties for anything arising out of this Agreement shall be settled as of the first day of July 1938;

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed under their corporate seals and the signatures of their proper officers duly authorized thereto:

SIGNED, SEALED AND DELIVERED
In the presence of

W. GEORGE HANNA
(COMMISSION SEAL)

J. R. CARTWRIGHT.
(POWER COMPANY SEAL)

J. R. CARTWRIGHT.
(TRANSMISSION CO. SEAL)

THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO.

(Sgd.) T. H. HOGG,
Chairman.
(Sgd.) R. T. JEFFERY,
Act. Secretary and Controller.

MACLAREN-QUEBEC POWER COMPANY.

(Sgd.) T. F. KENNY,
Director.
(Sgd.) J. A. BRYANT,
Secretary.

THE JAMES MACLAREN COMPANY LIMITED.

(Sgd.) T. F. KENNY,
Director.
(Sgd.) J. A. BRYANT,
Secretary.

CHAPTER 33

An Act to amend The Rural Power District
Service Charge Act.

Assented to April 8th, 1938.
Session Prorogued April 8th, 1938.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

1. This Act may be cited as *The Rural Power District Service Charge Amendment Act, 1938.* Short title.

2. Section 1 of *The Rural Power District Service Charge Act* is repealed and the following substituted therefor: Rev. Stat., c. 66, s. 1. re-enacted.

1. Notwithstanding anything contained in any Statute or municipal by-law or contract, the Lieutenant-Governor in Council, upon the recommendation of The Hydro-Electric Power Commission of Ontario, may from time to time make regulations fixing a maximum service charge for any class of service rendered by the Commission in a rural power district and also fixing the minimum number of consumers of different classes per mile of transmission line required for construction of works by the Commission in a rural power district or part thereof. Fixing maximum service charge, etc.

3. Subsection 1 of section 2 of *The Rural Power District Service Charge Act* is repealed and the following substituted therefor: Rev. Stat., c. 66, s. 2, subs. 1. re-enacted.

(1) Where in any rural power district by reason of such maximum service charge or minimum number of consumers having been fixed pursuant to section 1, the revenue derived from such service charge is not sufficient to meet the necessary cost of the service as specified by the Commission, the deficit shall be chargeable to and payable out of the Consolidated Revenue Fund. Where deficit arises.

4. This Act shall come into force on the day upon which it receives the Royal Assent. Commencement of Act.

APPENDIX II—

TOTAL MILEAGE OF TRANSMISSION LINES AND NUMBER OF

System and voltage	Line route or structure miles		
	Total to Oct. 31, 1937	Addi- tions 1938	Total to Oct. 31, 1938
Niagara System			
220,000-volt.....	705.27	.....	705.27
110,000-volt.....	715.20	0.91	716.11
110,000-volt.....	67.16	.....	67.16
90,000-volt.....	65.85	.....	65.85
60,000-volt.....	78.75	.....	78.75
60,000-volt.....	19.21	*10.01	9.20
46,000-volt.....	32.42	.....	32.42
46,000-volt.....	21.88	1.85	23.73
26,400-volt.....	598.18	16.70	614.88
13,200-volt.....	453.58	7.93	461.51
13,200-volt.....	1.17	.....	1.17
12,000-volt.....	117.91	*6.65	111.26
Dominion Power division—44,000-volt.....	37.31	*2.55	34.76
Dominion Power division—44,000-volt.....	141.36	3.86	145.22
Dominion Power division—22,000-volt.....	28.10	0.59	28.69
Dominion Power division—22,000-volt (concrete poles).....	9.00	*9.00	.....
Dominion Power division—10,000-volt.....	14.52	.....	14.52
Georgian Bay System			
110,000-volt.....	55.83	.....	55.83
38,000-volt.....	57.30	89.62	146.92
22,000-volt.....	13.44	*13.44	.....
6,600-volt.....	2.30	.....	2.30
Severn district—22,000-volt.....	176.22	*27.61	148.61
Eugenia district—26,400-volt and less.....	321.00	*39.27	281.73
Wasdell district—22,000-volt.....	83.72	*0.29	83.43
Muskoka district—22,000-volt.....	26.46	*0.15	26.31
Eastern Ontario System			
110,000-volt.....	107.08	.....	107.08
110,000-volt.....	163.44	.....	163.44
44,000-volt.....	24.33	.....	24.33
33,000-volt.....	27.90	14.36	42.26
Central district—44,000-volt and less.....	521.27	10.72	531.99
St. Lawrence district—44,000-volt.....	125.02	0.61	125.63
Rideau district—26,400-volt.....	76.99	*14.36	62.63
Madawaska district—33,000-volt and less.....	58.81	.....	58.81
Thunder Bay System			
110,000-volt.....	82.12	.....	82.12
110,000-volt.....	178.21	.....	178.21
44,000-volt.....	115.09	1.33	116.42
22,000-volt.....	0.35	.....	0.35
12,000-volt.....	1.45	.....	1.45
Northern Ontario Properties			
Nipissing district—22,000-volt.....	51.67	7.73	59.40
Sudbury district—22,000-volt.....	107.31	.....	107.31
Abitibi district—132,000-volt.....	362.74	.....	362.74
132,000-volt.....	190.19	.....	190.19
26,400-volt and less.....	49.27	4.58	53.85
Espanola district—33,000-volt.....	10.74	*3.91	6.83
Patricia district—44,000-volt.....	.....	40.56	40.56
St. Joseph district—22,000-volt.....	28.14	.....	28.14
Total	6,125.26	†74.11	6,199.37

*Removals.

†Net increase.

TRANSMISSION LINE RECORDS

SUPPORTING STRUCTURES CONSTRUCTED AND ACQUIRED

Circuit miles			Number of steel towers			Number of wood poles		
Total to Oct. 31, 1937	Addi- tions 1938	Total to Oct. 31, 1938	Total to Oct. 31, 1937	Addi- tions 1938	Total to Oct. 31, 1938	Total to Oct. 31, 1937	Addi- tions 1938	Total to Oct. 31, 1938
705.27	.....	705.27	3,522	.....	3,522	.....	.....	.....
1,375.76	1.82	1,377.58	6,571	9	6,580	.....	.....	.....
67.16	.....	67.16	.....	.....	.....	824	.....	824
128.72	*11.12	117.60	731	.....	731	.....	.....	.....
59.38	.....	59.38	947	*12	935	.....	.....	.....
19.21	*10.01	9.20	.....	.....	.....	472	*308	164
65.64	.....	65.64	375	2	377	.....	.....	.....
21.88	1.85	23.73	.....	.....	.....	685	66	751
751.69	16.69	768.38	.....	.....	.....	23,050	495	23,545
528.45	4.70	533.15	.....	.....	.....	17,678	136	17,814
2.34	.....	2.34	38	.....	38	.....	.....	.....
175.52	*14.56	160.96	7	.....	7	4,821	*333	4,488
74.62	*2.55	72.07	526	*20	506	.....	.....	.....
137.74	3.86	141.60	.....	.....	.....	5,103	157	5,260
33.45	4.76	38.21	.....	.....	.....	1,293	2	1,295
18.00	*18.00	.....	.....	.....	.....	253	*253	.....
14.52	.....	14.52	.....	.....	.....	498	.....	498
55.83	.....	55.83	.....	.....	.....	548	.....	548
57.73	89.62	147.35	.....	.....	.....	840	3,443	4,283
13.44	*13.44	.....	.....	.....	.....	211	*211	.....
2.30	.....	2.30	.....	.....	.....	101	.....	101
247.15	*27.61	219.54	.....	.....	.....	7,448	*1,488	5,960
404.39	*39.91	364.48	.....	.....	.....	12,631	*1,530	11,101
87.66	*0.29	87.37	.....	.....	.....	3,268	*34	3,234
26.46	*0.15	26.31	.....	.....	.....	1,148	*6	1,142
110.39	.....	110.39	636	.....	636	.....	.....	.....
163.44	.....	163.44	2	.....	2	1,833	.....	1,833
24.33	.....	24.33	.....	.....	.....	286	.....	286
33.58	14.36	47.94	.....	.....	.....	925	523	1,448
572.50	10.72	583.22	2	.....	2	18,531	328	18,859
125.02	0.99	126.01	.....	.....	.....	4,355	*2	4,353
76.99	*14.36	62.63	.....	.....	.....	2,870	*523	2,347
58.81	.....	58.81	.....	.....	.....	1,965	.....	1,965
164.28	.....	164.28	539	.....	539	.....	.....	.....
178.21	.....	178.21	4	.....	4	2,730	.....	2,730
115.09	1.33	116.42	.....	.....	.....	3,062	41	3,103
0.35	.....	0.35	.....	.....	.....	15	.....	15
1.45	.....	1.45	.....	.....	.....	61	.....	61
68.19	7.73	75.92	.....	.....	.....	1,839	318	2,157
107.31	.....	107.31	2	.....	2	4,067	.....	4,067
725.48	.....	725.48	1,880	.....	1,880	.....	.....	.....
190.19	.....	190.19	.....	.....	.....	2,717	.....	2,717
49.44	4.58	54.02	.....	.....	.....	1,724	140	1,864
10.74	*3.91	6.83	1	*1	0	291	*137	154
.....	40.56	40.56	.....	.....	.....	.....	416	416
28.14	.....	28.14	.....	.....	.....	746	.....	746
7,878.24	†47.66	7,925.90	15,783	*22	15,761	128,889	†1,240	130,129

APPENDIX II

LINES FOR THE USE OF

System	Total route or structure miles			Miles of single-circuit line		
	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938
Niagara system and N.A.....	673.35	*0.28	673.07	225.23	1.56	226.79
Dominion Power division.....						
Georgian Bay system.....						
Eastern Ontario system.....	14.46	0.03	14.49	11.61		11.61
Thunder Bay system.....	0.33	0.10	0.43	0.33	0.10	0.43
Northern Ontario Properties.....	281.85	0.08	281.93	273.10		273.10
Totals.....	969.99	*0.07	†969.92	510.27	1.66	511.93

Included in totals are 1.51 miles of 8-circuit line (E.O. system) and 5.80 miles of 6-circuit line and
 *Removals. †This total is exclusive of telephone cable.

TELEPHONE CIRCUITS CARRIED

System	Total route or structure miles			Miles of single-circuit line		
	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938
Niagara system and N.A.....	1,093.75	5.90	1,099.65	1,005.43	9.48	1,014.91
Dominion Power division.....	20.22		20.22	15.03	*0.92	14.11
Georgian Bay system.....	716.98	*8.62	708.36	653.59	*35.59	618.00
Eastern Ontario system.....	946.63	10.21	956.84	843.93	7.73	851.66
Thunder Bay system.....	208.79		208.79	203.09		203.09
Northern Ontario Properties.....	405.79	34.53	440.32	405.01	34.28	439.29
Totals.....	3,392.16	†42.02	†3,434.18	3,126.08	†14.98	3,141.06

Included in totals are 2.37 miles of 5-circuit line in E.O. system.

*Removals. †Net increase. ‡This total is exclusive of telephone cable.

Derived (carrier and phantom) circuits to Oct. 31, 1937: Niagara system—298.69 miles.

Derived (carrier and phantom) circuits to Oct. 31, 1938: Niagara system—298.69 miles.

These circuits are additional to the above tabulation but are made available by utilizing listed

(Concluded)

TELEPHONE CIRCUITS ONLY

Miles of two-circuit line			Miles of three-circuit line			Miles of four-circuit line			Miles of telephone cable		
Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938
351.08	*0.84	350.24	9.08	.....	9.08	75.10	*1.00	74.10	25.43	.....	25.43
.....
1.37	.....	1.37	.....	.....	.....	.....	.....	.....	.....	1.51	1.51
8.75	*0.86	7.89	.....	0.94	0.94	.....	.....	.....	1.25	.....	1.25
361.20	*1.70	359.50	9.08	0.94	10.02	75.10	*1.00	74.10	26.68	1.51	28.19

7.06 miles of 5-circuit line in Niagara system.

JOINTLY WITH POWER CIRCUITS

Miles of two-circuit line			Miles of three-circuit line			Miles of four-circuit line			Miles of telephone cable		
Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938	Completed to Oct. 31, 1937	Completed Oct. 31, 1937 to Oct. 31, 1938	Total to Oct. 31, 1938
79.90	2.81	82.71	0.46	.....	0.46	7.96	.....	7.96	3.46	.....	3.46
5.19	*0.02	5.17	.....	.....	.....	.....	.....	.....	.....	.....	.....
55.84	34.46	90.30	7.55	*0.21	7.34	.....	.....	.....	.....	.....	.....
99.08	0.09	99.17	.....	0.32	0.32	1.25	.....	1.25	.....	.....	.....
5.70	.....	5.70	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.78	.....	0.78	.....	.....	.....	.....	.....	.....	.....	.....	.....
246.49	37.34	283.83	8.01	0.11	8.12	9.21	.....	9.21	3.46	.....	3.46

Eastern Ontario system—12.70 miles.
 Eastern Ontario system—12.70 miles.
 physical circuits.

APPENDIX III

CONSTRUCTION IN RURAL POWER DISTRICTS

Summary of Data Respecting Distribution Lines Constructed in Rural Power Districts by The Hydro-Electric Power Commission of Ontario

Below is shown in tabular form the work carried on under the supervision of the Distribution section of the Electrical Engineering department in Rural Power Districts during the year ended October 31, 1938.

SUMMARY OF CONSTRUCTION IN RURAL POWER DISTRICTS

	At October 31, 1937		At October 31, 1938					
	Miles of primary line constructed	Number of consumers receiving service	Miles of primary line			Number of consumers		
			Constructed	Under construction or authorized	Total	Receiving service	Authorized	Total
NIAGARA SYSTEM.	8,512.47	57,629	9,671.10	350.27	10,021.37	64,447	1,090	65,537
GEORGIAN BAY SYSTEM								
Severn district.	507.46	4,244	666.07	33.73	699.80	5,362	88	5,450
Eugenia district.	404.22	1,761	584.56	47.27	631.83	2,579	177	2,756
Wasdells district.	283.93	2,019	354.31	11.57	365.88	2,446	35	2,481
Muskoka district.	222.58	1,201	251.56	3.77	255.33	1,483	16	1,499
Bala district.	56.30	360	64.15	0	64.15	437	0	437
System R.P.D.'s.	20.76	111	115.38	10.22	125.60	590	39	629
EASTERN ONTARIO SYSTEM								
Central district.	1,556.50	9,963	1,957.39	82.67	2,040.06	11,884	366	12,250
St. Lawrence district.	540.70	3,214	689.75	118.91	808.66	3,876	346	4,222
Rideau district.	114.97	685	178.28	32.19	210.47	1,020	104	1,124
Madawaska district.	42.57	312	51.75	17.42	69.17	331	68	399
Ottawa district.	219.85	1,417	235.15	8.98	244.13	1,545	24	1,569
THUNDER BAY SYSTEM.	95.68	422	119.04	7.20	126.24	594	20	614
MANITOULIN R.P.D.	47.15	232	67.53	22.32	89.85	261	128	389
NORTHERN ONTARIO PROPERTIES								
Nipissing district.	20.55	504	29.74	2.10	31.84	554	11	565
Total.	12,645.69	84,074	15,035.76	748.62	15,784.38	97,409	2,512	99,921

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICTS

Rural power district	Property number	At October 31, 1937		At October 31, 1938	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
NIAGARA SYSTEM					
Acton.....	N5D1	12.24	37	14.20	45
Ailsa Craig.....	N4D7	6.41	18	25.91	28
Alvinston.....	N18D9	14.41	18	18.30	34
Amherstburg.....	N15D3	88.55	744	97.14	811
Aylmer.....	N11D2	172.67	942	225.78	1,269
Ayr.....	N12D4	29.58	112	36.83	130
Baden.....	N7D1	124.67	588	128.81	624
Beamsville.....	N44D3	194.20	1,775	212.17	1,878
Belle River.....	N15D2	51.58	480	57.00	534
Blenheim.....	N14D3	84.19	440	91.62	517
Bond Lake.....	N3D3	190.68	1,969	203.17	2,067
Bothwell.....	N14D10	63.91	234	93.33	325
Brampton.....	N13D2	71.66	247	82.56	279
Brant.....	N12D1	164.61	850	185.14	987
Brigden.....	N18D8	41.66	142	61.04	158
Burford.....	N12D2	70.60	368	89.24	424
Caledonia.....	N2D5	139.53	737	161.06	863
Chatham.....	N14D1	194.98	1,090	214.50	1,225
Chippawa.....	N1D7	31.96	224	33.16	242
Clinton.....	N8D11	79.57	445	98.70	535
Delaware.....	N4D3	149.27	761	165.97	809
Dorchester.....	N4D1	129.74	706	141.59	769
Dresden.....	N14D12	52.75	181	79.26	265
Drumbo.....	N12D5	77.85	353	86.87	406
Dundas.....	N2D1	148.90	932	156.65	1,017
Dunnville.....	N1D9	28.05	173	72.77	390
Dutton.....	N11D3	60.39	231	90.71	295
Elmira.....	N7D3	26.05	110	26.05	110
Elora.....	N5D4	60.69	321	75.05	362
Essex.....	N15D7	112.94	597	136.32	699
Exeter.....	N4D6	85.15	768	100.91	875
Forest.....	N18D6	61.33	263	86.79	372
Galt.....	N6D2	47.14	403	49.70	430
Georgetown.....	N5D2	68.28	332	75.50	357
Goderich.....	N8D2	55.35	234	63.16	260
Grantham.....	N44D1	64.62	914	65.61	923
Guelph.....	N5D3	121.16	716	138.40	800
Haldimand.....	N2D8	112.65	500	145.08	678
Harriston.....	N8D5	24.71	73	25.84	77
Harrow.....	N15D4	77.19	784	81.44	833
Ingersoll.....	N10D3	202.98	723	216.76	803
Jordan.....	N44D2	46.29	449	46.88	458
Keswick.....	N3D5	71.90	1,276	77.26	1,365
Kingsville.....	N15D5	162.53	1,743	173.36	1,849
Listowel.....	N8D8	84.45	387	96.15	430

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICTS—Continued

Rural power district	Property number	At October 31, 1937		At October 31, 1938	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
NIAGARA SYSTEM—Concluded					
London.....	N4D2	214.30	2,576	220.56	2,717
Lucan.....	N4D5	66.43	211	77.54	246
Lynden.....	N2D2	70.99	307	76.90	331
Markham.....	N3D1	150.15	1,194	162.74	1,315
Merlin.....	N14D15	114.52	444	126.19	504
Milton.....	N13D3	83.04	415	88.80	451
Milverton.....	N8D9	55.61	225	59.64	240
Mitchell.....	N8D7	81.79	421	91.52	461
Newmarket.....	N3D4	82.82	513	91.84	579
Niagara.....	N1D1	54.14	372	59.20	437
Norwich.....	N10D1	146.98	687	156.63	775
Oil Springs.....	N18D3	25.37	121	35.88	165
Palmerston.....	N8D6	49.22	158	58.81	197
Petrolia.....	N18D5	23.09	107	30.35	139
Preston.....	N6D1	166.19	1,306	175.04	1,373
Ridgetown.....	N14D2	116.46	802	122.77	848
St. Jacobs.....	N7D2	77.17	439	86.62	472
St. Marys.....	N9D1	146.28	556	172.14	675
St. Thomas.....	N11D1	201.64	1,352	215.23	1,467
Saltfleet.....	N17D1	100.58	1,877	102.68	1,984
Sandwich.....	N15D1	136.84	2,234	146.13	2,464
Sarnia.....	N18D4	108.13	1,575	112.17	1,682
Scarboro.....	N3D2	102.95	1,153	107.16	1,288
Seaforth.....	N8D10	17.96	156	24.56	174
Simcoe.....	N12D6	99.80	586	124.88	750
Stamford.....	N44D4	9.44	305	9.69	279
Stratford.....	N8D4	39.07	245	48.26	259
Strathroy.....	N4D4	111.09	331	134.09	432
Streetsville.....	N13D1	118.54	557	125.04	617
Tavistock.....	N8D1	112.93	423	126.20	490
Thamesville.....	N14D11	89.86	357	103.52	423
Tilbury.....	N14D14	114.34	472	133.80	561
Tillsonburg.....	N10D4	154.57	802	175.33	968
Wallaceburg.....	N14D13	139.38	794	174.85	967
Walsingham.....	N12D7	205.30	1,034	245.08	1,295
Walton.....	N8D3	60.82	343	79.43	393
Waterdown.....	N2D3	79.75	1,066	83.49	1,085
Waterford.....	N12D3	98.33	433	122.33	547
Watford.....	N18D7	26.27	61	40.64	141
Welland.....	N1D5	296.69	3,103	312.49	3,361
Woodbridge.....	N16D1	243.15	1,306	251.14	1,395
Woodstock.....	N10D2	160.67	820	176.00	894

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICTS—Continued					
Rural power district	Property number	At October 31, 1937		At October 31, 1938	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
GEORGIAN BAY SYSTEM					
SEVERN DISTRICT					
Alliston.....	S32D1	38.19	206	46.83	244
Barrie.....	S4D1	85.08	693	95.05	781
Beeton.....	S33D1	1.80	5	1.80	5
Bradford.....	S37D1	36.65	117	49.68	162
Buckskin.....	S24D1	1.75	23	1.75	23
Cookstown.....	S35D1	0.90	3	2.98	5
Creemore.....	S10D2	53.81	198	86.41	312
Elmvale.....	S7D1	44.18	218	51.98	257
Hawkestone.....	S9D1	54.48	303	72.18	398
Innisfil.....	S31D1	41.64	809	45.55	973
Medonte.....	S18D1	37.32	168	63.66	287
Midland.....	S1D1	63.34	415	80.11	605
Nottawasaga.....	S5D1	8.22	108	19.87	145
Thornton.....	S36D1	8.14	34	10.98	39
Tottenham.....	S34D1	6.90	14	11.46	33
Wasaga Beach.....	S10D1	25.06	930	25.78	1,093
EUGENIA DISTRICT					
Arthur.....	E13D2	2.40	12	8.46	24
Bruce.....	E19D1	77.44	367	129.54	588
Chatsworth.....	E3D1	0	22	0	19
Dundalk.....	E5D1	6.99	28	22.79	68
Flesherton.....	E1D1	13.65	40	20.50	108
Holstein.....	E7D1	0.50	9	2.00	15
Lucknow.....	E24D1	5.57	3	9.18	39
Markdale.....	E1D2	20.85	90	23.37	97
Mount Forest.....	E9D1	.....	.....	.....	.....
Neustadt.....	E8D1	0.76	7	3.86	17
Orangeville.....	E12D1	51.92	173	93.79	277
Owen Sound.....	E2D1	39.32	171	41.17	205
Ripley.....	E24D2	31.90	41	66.03	186
Sauble.....	E46D1	22.85	137	32.50	237
Shelburne.....	E10D1	19.37	65	24.37	82
Tara.....	E15D1	48.96	205	55.81	234
Wroxeter.....	E22D1	47.56	339	51.19	383
WASDELLS DISTRICT					
Beaverton.....	W2D1	40.06	434	53.84	523
Cannington.....	W3D1	14.10	66	29.91	114
Kirkfield.....	W6D1	9.89	50	20.91	97
Mariposa.....	W9D1	55.06	357	61.54	395
Port Perry.....	W12D1	55.39	471	62.22	532
Sparrow Lake.....	W1D1	43.63	412	51.18	511
Uxbridge.....	W11D1	65.80	229	74.71	274
MUSKOKA DISTRICT					
Beaumaris.....	M7D1	64.49	437	67.53	478
Baysville.....	M10D1	36.81	213	42.85	268
Huntsville.....	M2D1	68.05	287	91.55	465
South Falls.....	M1D1	0.10	4	0.60	16
Utterson.....	M8D1	41.54	212	49.03	256

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICTS—Continued

Rural power district	Property number	At October 31, 1937		At October 31, 1938	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service

GEORGIAN BAY SYSTEM—Concluded

BALA DISTRICT					
Bala	GB13D1	56.30	360	64.15	437
SYSTEM R.P.D.'s					
Gravenhurst	G34D1	11.59	48	14.17	62
Meaford	G14D1	14.18	52	59.77	301
Minden	G37D1	20.76	111	41.44	227

EASTERN ONTARIO SYSTEM

CENTRAL DISTRICT					
Belleville	C38D1	126.84	869	148.11	1,007
Bowmanville	C23D1	47.76	216	56.38	269
Brighton	C6D1	15.19	81	15.41	94
Campbellford	C11D1	31.05	119	46.57	159
Cobourg	C13D1	138.45	667	159.78	788
Colborne	C7D1	54.57	290	74.54	382
Fenelon Falls	C30D1	78.62	494	107.50	666
Kingston	C44D1	210.03	1,181	237.90	1,403
Lakefield	C18D1	36.07	158	61.29	261
Madoc	C33D1	.....	....	16.58	17
Marmora	C47D1	2.85	25	3.62	29
Millbrook	C25D1	28.24	159	31.47	178
Napanee	C43D1	188.83	873	238.38	1,069
Newcastle	C22D1	31.45	143	38.41	147
Norwood	C31D1	23.11	144	38.09	199
Omeme	C26D1	5.55	14	23.55	49
Oshawa	C24D1	168.34	1,975	185.97	2,180
Peterboro	C20D1	85.62	1,312	101.65	1,375
Stirling	C35D1	32.16	139	45.75	174
Sulphide	C34D1	15.31	55	16.64	78
Trenton	C3D1	78.00	339	82.43	378
Warkworth	C49D1	11.15	45	11.81	51
Wellington	C45D1	147.31	665	215.56	931
ST. LAWRENCE DISTRICT					
Alexandria	L15D1	34.39	171	46.25	219
Brockville	L3D1	108.45	794	139.20	953
Chesterville	L5D1	95.57	580	115.15	682
Cornwall	L1D1	.....	....	0	0
Iroquois	L9D1	104.45	549	106.11	531
Martintown	L13D1	35.44	182	58.80	279
Maxville	L14D2	72.82	474	127.21	703
Prescott	L2D1	53.26	269	57.40	296
Williamsburg	L7D1	36.32	195	39.63	213
RIDEAU DISTRICT					
Carleton Place	H5D1	1.16	4	28.09	102
Kemptville	H9D1	5.43	54	5.87	61
Perth	H2D1	21.11	104	48.67	245
Smiths Falls	H3D1	87.27	523	95.65	612

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICTS—Concluded

Rural power district	Property number	At October 31, 1937		At October 31, 1938	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service

EASTERN ONTARIO SYSTEM—Concluded

MADAWASKA DISTRICT					
Arnprior	QM10D1	9.32	80	10.97	85
Renfrew	QM16D1	33.25	232	40.78	246
Pembroke	QM30D1	.....	....	0.00	0
OTTAWA DISTRICT					
Nepean	T1D1	219.85	1,417	235.15	1,545

THUNDER BAY SYSTEM

Fort William	P10D1	64.93	245	77.94	354
Port Arthur	P2D1	30.75	177	41.10	240

MANITOULIN RURAL POWER DISTRICT

Manitoulin	MR1D1	47.15	232	67.53	261
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NORTHERN ONTARIO PROPERTIES

NIPISSING DISTRICT					
North Bay	Z4D1	16.45	485	25.64	535
Powassan	Z8D1	4.10	19	4.10	19

APPENDIX IV

GENERATING STATIONS

Operated by The Hydro-Electric Power Commission of Ontario
on Behalf of Municipalities Comprising the Co-operative Systems,
and on Behalf of the Province in the case of the
Northern Ontario Properties

In the Twenty-fourth Annual Report, which was for the year 1931, there was printed as Appendix IV a list of generating stations operated by the Commission. Since that time the Commission has constructed or acquired additional plants, and added to the equipment of others. After the lapse of seven years it is desirable to bring this tabulation up-to-date.

On the following pages, the generating stations are grouped under the systems to which they respectively belong, and particulars are given of the hydraulic features of the developments, the main turbines, the main generators, the exciters, and the step-up transformers.

Abbreviations

h.p.	.	.	.	.	.	.	.	.	.	horsepower
kw.	.	.	.	.	.	.	.	.	.	kilowatts
kv-a.	.	.	.	.	.	.	.	.	.	kilovolt-amperes
kv.	.	.	.	.	.	.	.	.	.	kilovolts
ft.	.	.	.	.	.	.	.	.	.	foot or feet

NIAGARA SYSTEM

GENERAL—This system comprises all the territory lying between Niagara Falls, Hamilton and Toronto, on the east, and Windsor, Sarnia and Goderich, on the west and north, served with electrical energy generated at plants on the Niagara river, and the Ottawa river at Chats Falls, and supplemented with purchased power transmitted from generating stations in the province of Quebec.

TRANSMISSION LINES—220 kv. 705.3 miles; 110 kv. 783.3 miles; 90 kv. to 12 kv. 1,398.77 miles. Less than 12 kv. not included.

TRANSFORMATION—Total capacity in 179 stations owned by the Commission=step up, 988,680 kv-a. in 5 stations; step down, 1,267,188 kv-a. in 1-220 kv., 24-110 kv. transformer stations, 148 distributing stations and 10,000 kv-a. in 1 auto-transformer station.

GENERATION:

Queenston Generating Station

Situated at Queenston, on the Niagara river. Constructed by Commission. Official opening, December 28, 1921. Commercial operation, January 26, 1922. Intake at Chippawa, at mouth of Welland river (Grass Island Pool), above Niagara Falls. Water conveyed through canal 12¾ miles long, 4¼ miles of which, from intake to Montrose, consists of channel of Welland river,

widened and deepened, flow being reversed; remaining $8\frac{1}{2}$ miles excavated concrete-lined canal to forebay at Queenston, thence down the face of the cliff through penstocks provided with automatically operated Johnson valves to the turbines. Net operating head, 294 ft.

Main Turbines—Two 52,500 h.p. Wellman-Seaver-Morgan; three 55,000 h.p. William Cramp; five 58,000 h.p. Dominion Engineering Works, all vertical shaft. Total capacity, 560,000 h.p.

Auxiliary Turbines—Two 2,800 h.p. Canadian Allis-Chalmers. Total capacity, 5,600 h.p.

Main Generators—Three 45,000 kv-a., two 55,000 kv-a. Canadian Westinghouse Company.; two 45,000 h.p-a., three 54,000 kv-a. Canadian General Electric Company, 3-phase, 25 cycles, 21 kv. vertical shaft with thrust bearing. Total capacity, 497,000 kv-a.

Auxiliary Generators—Two 2,200 kv-a. Canadian Westinghouse Company, 3-phase, 2,300 volts, vertical shafts. Total capacity, 4,400 kv-a.

Exciters—Five 150 kw., five 180 kw. direct connected to main generators; two 30 kw. direct connected to auxiliary generators.

Transformers—Five banks=fifteen 15,000 kv-a.; 5 banks=fifteen 18,333 kv-a. Canadian Westinghouse Company, single-phase, 12 to 63.5 kv. to operate 110 kv. star connected. Total capacity, 500,000 kv-a.

Ontario Power Generating Station

Situated in Queen Victoria Niagara Falls Park, below Horseshoe Falls. Formerly property of Ontario Power Company. In operation July, 1905. Purchased by Commission, August, 1917. Intake and head works at first cascade of upper rapid, one mile above generating station. Water conveyed through three conduits of steel, concrete, and wood stave respectively to distributors, from which steel penstocks lead through rock cliff to turbines. Net operating head, 180 ft.

Main Turbines—Seven 11,700 h.p. and five 13,400 h.p. Voith; two 13,400 h.p. Wellman-Seaver-Morgan; one 20,000 h.p. S. Morgan Smith inward flow, horizontal, twin type. Total capacity, 195,700 h.p.

Auxiliary Turbines—Two 1,600 h.p. Canadian Allis-Chalmers; two 500 h.p. Jenckes Machine Company. Total capacity, 4,200 h.p.

Main Generators—Seven 8,776 kv-a., one 15,000 kv-a. Canadian General Electric Company; four 8,770 kv-a., three 7,500 kv-a. Westinghouse Electric and Manufacturing Company, 3-phase, 25 cycles, 12 kv-a. Total capacity, 134,012 kv-a.

Auxiliary Generators—Two 375 kw. Westinghouse Electric and Manufacturing Company; two 1,060 kw. Allis-Chalmers-Bullock. Total capacity, 2,870 kw.

Exciters—Six 40 kw., ten 60 kw., three 125 kw. Canadian General Electric Company, motor driven.

Transformers—Four banks=twelve 3,000 kv-a., 12 to 60 kv., single-phase, Westinghouse Electric and Manufacturing Company; 2 banks=six 3,000 kv-a., 12 to 30 kv., single-phase, Canadian Westinghouse Company. Total capacity, 54,000 kv-a.

Toronto Power Generating Station

Situated in Queen Victoria Niagara Falls Park, above the Horseshoe Falls. Formerly owned by Toronto Power Company. In operation 1906-07. Purchased by Commission, 1922. Water collected by wing dam conveyed to turbines from head works through steel penstocks. Tail-race tunnelled through solid rock, discharging under Niagara Falls. Net operating head, 135 ft.

Main Turbines—Seven 15,500 h.p., four 13,000 h.p. William Cramp, all vertical shaft. Total capacity, 160,500 h.p.

Auxiliary Turbines—Two 500 h.p. Morris, vertical shaft. Total capacity, 1,000 h.p.

Main Generators—Two 8,000 kv-a. General Electric Company; two 8,000 kv-a., seven 10,000 kv-a. Canadian General Electric Company, 3-phase, 25 cycles. 12 kv., vertical shaft. Total capacity, 102,000 kv-a.

Auxiliary Generators—Three 300 kw. Canadian General Electric Company, 125 volts, two turbine driven and one motor driven.

Exciters—Eleven 50 kw., 125 volts, direct connected to main generators.

Transformers—Three banks=nine 2,670 kv-a.; 2 banks=six 6,000 kv-a., 12 to 60 kv., Canadian General Electric Company, single-phase. Total capacity, 60,030 kv-a.

Chats Falls Generating Station

Situated on the Ottawa river, thirty miles up-stream from the city of Ottawa. Plant controlled and owned jointly by the Hydro-Electric Power Commission of Ontario and the Ottawa Valley Power Company. First four units ready for operation October, 1931. Power house and intake integral with dam. Combined length of dam and power house, approximately three miles. Power fed at generator voltage to adjacent outdoor transformer station, where it is stepped up to 220 kv. for transmission over the Commission's lines to Toronto. Designed operating head, 53 ft.

Main Turbines—Eight 28,000 h.p. Dominion Engineering Works Limited propeller type, vertical shaft. Total capacity, 224,000 h.p. Plant designed for an ultimate installation of 10 units.

Main Generators—Eight 23,500 kv-a. Canadian Westinghouse Company, 3-phase, 25 cycles, 13.2 kv. vertical shaft.

Exciters—Eight 200 kw., 250 volts Canadian Westinghouse Company, direct connected to main generators.

Transformers—Four banks = twelve 15,700 kv-a. Canadian General Electric Company, 220 to 13.2 kv., 25 cycles, single phase. Total capacity, 188,400 kv-a.

Chats Falls Frequency-Changer Station

Situated at the Ontario end of Chats Falls generating station in space provided for future unit No. 1. Constructed by Commission. Placed in service October 13, 1935. Power supplied from Chats Falls generator bus to 25-cycle motor of frequency-changer set and fed from 60-cycle generator to transformer, where it is stepped up to 121 kv. for transmission to Eastern Ontario system.

Frequency-changer—One 45,000 kv-a. Canadian Westinghouse Company, 13.2 kv., 25/60-cycle vertical shaft.

Exciters—Two 200 kw., 250-volt generators on same shaft, with 600 h.p. motor.

Transformer—One 45,000 kv-a. Canadian Westinghouse Company, 121 to 13.2 kv., 60 cycles, 3-phase.

NIAGARA SYSTEM (DOMINION POWER DIVISION)

GENERAL—This system comprises certain urban and rural districts in the vicinity of the cities of St. Catharines, Hamilton and Brantford, formerly served by subsidiaries of the Dominion Power and Transmission Company. Properties, including generating plants, transmission lines, and substations, were purchased in April, 1930. Power is obtained from a hydraulic development at DeCew Falls and a steam plant at Hamilton; 25-cycle power is also purchased from Canadian Niagara Power Company and converted to 66.6 cycles at Niagara Falls.

TRANSMISSION LINES—44 kv., 179.98 miles; 22 to 10 kv., 43.2 miles. Less than 10 kv. not included.

TRANSFORMATION—Total capacity in 18 stations owned by the Commission = step up, 79,200 kv-a. in 3 stations; step down, 21,925 kv-a. in 15 transformer stations.

GENERATION:

DeCew Falls Generating Station

Situated at Power Glen about two miles from St. Catharines. Formerly owned by Dominion Power and Transmission Company. In operation, August, 1898. Purchased by the Commission in April, 1930. Water supplied from Welland Ship Canal to forebay, thence through seven steel penstocks to turbines. Tail water passes by natural stream channel to lake Ontario. Net operating head, 260 ft.

Main Turbines—Six 7,000 h.p., one 3,500 h.p. Voith; two 3,000 h.p. Riva Monneret. Total capacity, 51,500 h.p.

Auxiliary Turbines—Two 40 h.p., one 750 h.p. Total capacity, 830 h.p.

Main Generators—One 2,500 kv-a., four 6,400 kv-a. Canadian Westinghouse Company; two 5,000 kv-a. Westinghouse Electric and Manufacturing Company; two 2,000 kv-a. Canadian General Electric Company, 3-phase, 66.6 cycles, 2,400 volts. Total capacity, 42,100 kv-a.

Auxiliary Generator—One 500 kv-a. Canadian Westinghouse Company.

Exciters—One 100 kw. Canadian Westinghouse Company; three 100 kw. Westinghouse Electric and Manufacturing Company, motor driven; one 40 kw. Canadian General Electric Company, belt driven from main generator; one 30 kw. Royal Electric Company direct connected to auxiliary turbines, 70 volts.

Transformers—Two banks=six 2,000 kv-a. Canadian Westinghouse Company, 2.4 to 24 kv.; five 2,500 kv-a., four 3,200 kv-a. Westinghouse Electric and Manufacturing Company; one 2,500 kv-a., two 3,200 kv-a. Canadian Westinghouse Company, 66.6 cycles, 2.4 to 45 kv. Total capacity, 46,200 kv-a.

Steam Plant

Situated on Burlington Bay, at the north-eastern limits of the city of Hamilton. Formerly property of Dominion Power and Transmission Company. In operation, 1916. Purchased by the Commission in April, 1930. Coal-fired boilers supply steam to direct connected turbo-alternators.

Main Steam Turbines—Two 14,750 h.p. Westinghouse Machine Company. Total capacity 29,500 h.p.

Auxiliary Steam Turbine—One 75 kw. direct connected to exciter. Two pump units.

Main Generators—Two 12,500 kv-a. Westinghouse Electric and Manufacturing Company, turbo-alternators, 3-phase, 66.6 cycles, 6.6 kv. Total capacity, 25,000 kv-a.

Exciters—One 75 kw. Westinghouse Electric and Manufacturing Company, steam turbine driven; two 75 kw. Canadian Westinghouse Company, motor driven, 125 volts.

Transformers—Two banks=six 4,000 kv-a., 6.6 to 42 kv., single-phase, Canadian Westinghouse Company. Total capacity, 24,000 kv-a.

Frequency Changer Station

Situated at Niagara Falls. In operation, 1924. Purchased by the Commission in April, 1930. Power supplied to motor at 25 cycles.

Motor—One 8,200 kv-a., 3-phase, 25 cycles, 12 kv. Canadian Westinghouse Company.

Generator—One 9,000 kv-a., 3-phase, 66.6 cycles, 13.2 kv., Canadian Westinghouse Company.

Exciter—One 90 kw., 125 volts, direct connected.

Transformers—One bank=three 3,000 kv-a. Canadian Westinghouse Company, single-phase, 13.2 to 48 kv. Total capacity, 9,000 kv-a.

GEORGIAN BAY SYSTEM

GENERAL—This system comprises the area adjoining on the north that section of country served by the Niagara System. It is a consolidation of what were formerly four systems known respectively as Severn, Eugenia, Waddells and Muskoka, to which have been added properties and plants purchased from private interests and incorporated into the system as the Bala district. Power is obtained from developments on the Severn, Beaver, Muskoka and Saugeen rivers, supplemented with purchased power from the Orillia municipal plant. Additional power is provided from the Niagara system through frequency changers at Mount Forest and Hanover.

Severn district adjoins the Niagara system on the south, and is the central portion of the system. Power developments in the district are on the Severn and Muskoka rivers.

Eugenia district also adjoins the Niagara system on the south and the Severn district on the east. Power developments are on the Saugeen and Beaver rivers.

Waddells district is the south-eastern portion of the system with developments on the Severn river.

Muskoka district is the north-eastern portion of the system with developments on the Muskoka river.

Bala district serves a small section of territory situated geographically in the Muskoka district. All districts are now interconnected by tie-lines, so that eleven generating stations operate in parallel through one network of transmission lines. The power is transmitted at 22 kv. and 38 kv. and connected through auto-transformers.

TRANSMISSION LINES—110 kv., 55.8 miles; 38 kv., 146.92 miles; 26.4 to 6.6 kv., 542.38 miles. Less than 6.6 kv. not included.

TRANSFORMATION—Total capacity in 77 stations owned by the Commission=step up, 28,650 kv-a. in 7 stations; step down, 32,943 kv-a. in 64 transformer stations; 18,000 kv-a. in 4 auto-transformer stations, and 8,400 kv-a. in 2 frequency changer stations.

GENERATION:

SEVERN DISTRICT

Big Chute Generating Station

Situated at Big Chute, on the Severn river. Formerly the property of the Simcoe Light and Power Company. In operation, 1909. Purchased by the Commission in July, 1914. Water conveyed to forebay by canal and thence to power house by two steel penstocks. Average operating head, 56 ft.

Main Turbines—Three 1,100 h.p. William Hamilton; one 2,300 h.p. Wellman-Seaver-Morgan, horizontal shaft. Total capacity, 5,600 h.p.

Auxiliary Turbines—Two 150 hp. William Hamilton.

Main Generators—Three 900 kv-a. Canadian Westinghouse Company; one 1,600 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 2,200 volts, horizontal shaft. Total capacity, 4,300 kv-a.

Exciters—Two 100 kw. Canadian Westinghouse, 125 volts, turbine driven.

Transformers—Two banks=six 600 kv-a. Canadian Westinghouse Company, 2.2 to 22 kv. Total capacity, 3,600 kv-a.

EUGENIA DISTRICT

Eugenia Falls Generating Station

Situated at Eugenia Falls, on the Beaver river. Power rights purchased by Commission from Georgian Bay Power Company in 1914. Plant installed by Commission. In operation in November, 1915. Water is conveyed to plant through canal, two wood stave pipe lines and two steel penstocks, each provided with surge tank. Average operating head, 550 ft.

Main Turbines—One 4,000 h.p. Allis-Chalmers; two 2,250 h.p. Escher Wyss, all horizontal shaft. Total capacity, 8,500 h.p.

Main Generators—One 2,820 kv-a., two 1,410 kv-a. Canadian Westinghouse, 3-phase, 60 cycles, 4,000 volts. Total capacity, 5,640 kv-a.

Exciters—One 40 kw., two 30 kw. Canadian Westinghouse direct connected to generators.

Transformers—Two banks=six 900 kv-a. Canadian Westinghouse Company, 4 to 22 kv. Total capacity, 5,400 kv-a.

Hanover Generating Station

Situated in the town of Hanover, on Saugeen river. Formerly owned by Canada Cement Company. In operation about 1900. Purchased by Commission, February, 1929. Water conveyed through canal to head works at power house. Operating head, 17 to 18 ft.

Main Turbines—Two 175 h.p. William Hamilton horizontal shaft. Total capacity, 350 h.p.

Main Generators—Two 150 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 4,000 volts. Total capacity, 300 kv-a.

Exciter—One 13 kw. Canadian General Electric Company, 125 volts.

Southampton Generating Station (not operating)

Situated at Indian Rapids, on Saugeen river, about three miles above Southampton. Formerly owned by Foshay interests. In operation, 1897. Purchased by Commission, 1930. Power house and intake integral with dam. Operating head, 11 ft.

Main Turbines—One 150 h.p. William Hamilton; one 300 h.p. William Kennedy, both vertical shaft. Total capacity, 450 h.p.

Main Generators—One 188 kv-a. Swedish General Electric Company, 2,300 volts; one 200 kv-a. Canadian General Electric Company, 6,600 volts, 3-phase, 60 cycles. Total capacity, 388 kv-a.

Exciters—One 9 kw., one 25 kw. Canadian General Electric Company; one 7½ kw. Canadian Westinghouse Company, 125 volts, belt driven from main units.

Transformers—Three 150 kv-a., 2,300 to 22,000 volts, Maloney Electric Company, single-phase, 60 cycles. Total capacity, 450 kv-a.

Walkerton Generating Station

Situated on Saugeen river, about two miles above the town of Walkerton. Formerly owned by Foshay interests. In operation, 1894. Purchased by Commission, 1930. Water conveyed through canal to head works at power house. Operating head about 12 ft.

Main Turbines—One 275 h.p. William Kennedy; one 300 h.p. Boving, both vertical shaft. Total capacity, 575 h.p.

Main Generators—One 150 kv-a., one 200 kv-a. Swedish General Electric Company, 3-phase, 2,300 volts, direct connected to turbines. Total capacity, 350 kv-a.

Exciters—One 25 kw. Canadian Westinghouse Company, motor driven; one 12 kw., turbine driven, one 20 kw., belt driven from main unit, Swedish General Electric Company, 125 volts.

Transformers—One 750 kv-a. Packard Electric Company, 3-phase, 2.3 to 22 kv. Total capacity, 750 kv-a.

WASDELLS DISTRICT

Wasdells Falls Generating Station

Situated at Wasdells Falls, on the Severn river. Constructed by Commission. In operation, October, 1914. Power house and intake integral with dam. Average operating head, 12 ft.

Main Turbines—Two 600 h.p. Boving, vertical shaft. Total capacity, 1,200 h.p.

Auxiliary Turbine—One 55 h.p. Boving.

Main Generators—Two 400 kv-a. Swedish General Electric Company, 3-phase, 60 cycle, 2,300 volts, vertical shaft. Total capacity, 800 kv-a.

Exciters—One 20 kw., turbine driven, one 30 kw., motor driven, Swedish General Electric Company, 125 volts.

Transformers—two banks=six 150 kv-a. Canadian Westinghouse Company, single-phase, 2.3 to 22 kv. Total capacity, 900 kv-a.

MUSKOKA DISTRICT

Ragged Rapids Generating Station

Situated on the Muskoka, locally known as the Musquash river, about five miles below Bala, with concrete regulating dam on the Moon river. Development completed and first unit came into service October 18, 1938, and second unit November 7, 1938. Operating head, 38 ft.

Turbines—Two 5,200 h.p. Kaplan type, vertical shaft, by S. Morgan Smith-Inglis Company. Total capacity, 10,400 h.p.

Generators—Two 4,500 kv-a. 60 cycles, 200 r.p.m., 6,600 volt Canadian Westinghouse Company, direct connected to turbines. Total capacity, 9,000 kv-a.

Exciters—Two 70 kw. 125-volt, direct connected to generators.

Transformers—One bank=three 3,000 kv-a., single phase, 6,600/38,000 volt Hackbridge Transformer Company of Canada.

South Falls Generating Station

Situated at South Falls, on Muskoka river. Purchased from the municipality of Gravenhurst on November 1st, 1915. Remodelled and enlarged in 1916 and again in 1924. Water conveyed from intake by 3 wood stave pipe lines. Average operating head, 107 ft.

Main Turbines—One 1,000 h.p. William Hamilton; two 2,200 h.p. William Kennedy, all horizontal shaft. Total capacity, 5,400 h.p.

Main Generators—One 750 kv-a Canadian General Electric Company; two 2,000 kv-a. Bruce Peebles, 3-phase, 60 cycles, 6,600 volts, horizontal shaft.

Exciters—Two 18 kw. Bruce Peebles; one 12 kw. Canadian General Electric Company direct connected to main generators; one 20 kw. Canadian General Electric Company, motor driven, 125 volts.

Transformers—Two banks=six 1,200 kv-a., 6.6. to 38 kv.; one bank=three 400 kv-a., 6.6 to 22 kv. Canadian General Electric Company. Total capacity, 8,400 kv-a.

Hanna Chute Generating Station

Situated at Hanna Chute, on the Muskoka river, about half a mile up stream from South Falls plant, and remote controlled from that point. Constructed by Commission. In operation, October, 1926. Power fed at generator voltage to South Falls step-up transformers. Power house and intake integral with dam. Average operating head, 30 ft.

Main Turbine—One 1,550 h.p. Dominion Engineering Works, propeller type, vertical shaft.

Main Generator—One 1,400 kv-a. Swedish General Electric Company, 3-phase, 60 cycles, 6,600 volts, with thrust bearing on vertical shaft.

Exciters—One 23 kw. direct connected to generator.

Trethewey Falls Generating Station

Situated at Trethewey Falls, on Muskoka river, about $2\frac{1}{4}$ miles up stream from South Falls plant, and remote controlled from that point. Constructed by Commission. In operation September, 1929. Power fed at generator voltage to South Falls step-up transformers. Power house and intake integral with dam. Average operating head, 35 ft.

Main Turbine—One 2,300 h.p. S. Morgan Smith-Inglis, propeller type, vertical shaft.

Main Generator—One 2,000 kv-a. Swedish General Electric Company, 3-phase, 60 cycles, 6,600 volts, with spring type thrust bearing on vertical shaft.

Exciters—One 24 kw. direct connected to generator.

BALA DISTRICT

Bala Generating Station No. 1

Situated in the town of Bala, on Muskoka river. Formerly property of Bala Electric Light and Power Company. In operation 1917. Purchased by Commission in 1929. Water from Muskoka lake conveyed through canal to head works at power house. Operating head about 19 ft.

Main Turbines—Two 160 h.p. William Hamilton, horizontal shaft. Total capacity, 320 h.p.

Main Generators—One 125 kv-a., one 150 kv-a. Canadian General Electric, 3-phase, 60 cycles, 2,300 volts. Total capacity, 275 kv-a.

Exciters—One 5 kw. Canadian General Electric Company; one 12.5 kw. Canadian Westinghouse Company, 125 volts, belt driven from main units.

Bala Generating Station No. 2

Situated in the town of Bala, on Muskoka river, a short distance from Bala Station No. 1, and remote controlled from that point. Formerly property of Bala Electric Light and Power Company. In operation 1924. Purchased by Commission in 1929. Water from Muskoka lake conveyed to plant through short flume to head works at power house. Operating head about 19 ft.

Main Turbine—One 400 h.p. William Hamilton, propeller type, vertical shaft.

Main Generator—One 312.5 kv-a. Canadian General Electric, 3-phase, 60 cycles, 2,300 volts. Total capacity, 312.5 kv-a.

Exciter—One 8 kw. Canadian General Electric Company, 125 volts, direct connected to main unit.

Transformers—One bank = three 50 kv-a. Canadian General Electric Company, 2,300 to 13,200 volts. One bank = three 150 kv-a. Moloney Electric Company, 2,300 to 6,600 volts, single-phase, 60 cycles. Total capacity, 600 kv-a.

EASTERN ONTARIO SYSTEM

GENERAL—This system comprises that portion of the province east of the area served by the Georgian Bay and Niagara Systems. It is a consolidation of what was formerly the Central Ontario and Trent system with the St. Lawrence, Rideau, Ottawa and Madawaska systems. Power is obtained from developments on the Trent, Madawaska and Mississippi rivers, supplemented with power from the frequency-changer station at Chats Falls development on the Ottawa river, and purchased power from the Gattineau river. The Gattineau power is obtained on contract over a 110 kv. transmission line, owned by the Commission, which connects with the lines of the Gattineau Power Company at the Inter-provincial boundary near the west city limits of Ottawa, and to Chats Falls frequency changer station, and extends to step-down stations at Smiths Falls,

Kingston, Cornwall and Trenton, from which it is distributed to the respective districts. The line is tapped near the south-west limits of the city of Ottawa to connect with a step-down station which supplies its share of power to the municipality. Complete interconnection and paralleling of the various generating stations does not normally obtain, but interchange of power between different sections is possible.

The *Central Ontario district* is the most westerly district of the system. Power in this district is obtained from developments on the Trent river and its tributaries. The generators are connected through step-up transformers, and thus operate in parallel through one network of transmission lines. Power is also purchased from the municipality of Campbellford, and in emergencies from the Peterboro Hydraulic Power Company and the Canadian General Electric Company. Originally this area was served by subsidiary companies of the Electric Power Company, but by agreement, March 10, 1916, under the provisions of the Central Ontario Power Act of 1916, the Commission assumed control of the interests and properties of these companies. In addition to the generating and distributing systems these included two waterworks systems, three gas plants, and one pulp mill. The companies included in this agreement were: Auburn Power Company, Limited; Central Ontario Power Company, Limited; City Gas Company of Oshawa, Limited; Cobourg Utilities Corporation, Limited; Cobourg Gas, Light and Water Company; Eastern Power Company, Limited; Light, Heat and Power Company of Lindsay; Napanee Gas Company, Limited; Napanee Water and Electric Company; Northumberland Pulp Company, Limited; Peterboro Radial Railway Company; Port Hope Electric Light and Power Company; Seymour Power and Electric Company, Limited; Sidney Electric Power Company, Limited; Trenton Electric and Water Company, Limited; Tweed Electric Light and Power Company, Limited; Nipissing Power Company, and North Bay Light, Heat and Power Company, Limited; of these the last two are part of the Nipissing system.

The *St. Lawrence district* is the most easterly district of the system. There are no developments owned by the Commission in this district, power being purchased from the Gatineau Power Company. It is delivered at 110,000 volts to the Commission's transformer station at Cornwall, where it is stepped down for transmission through the 44 kv. network to the various municipalities.

The *Rideau district* comprises the area between the Central Ontario and the St. Lawrence districts. Power developed in the district is obtained from developments on the Mississippi river; 1,050 h.p. is also purchased from the Rideau Power Company.

The *Ottawa district* comprises a section of the municipality of Ottawa and adjacent territory. Power first delivered by Commission in July, 1907, subsequent to purchase by municipality, in 1905, from Consumers Electric Company, of distributing system. Three-phase, 60-cycle power is purchased from Ottawa and Hull Power and Manufacturing Company at 11,000 volts, and delivered directly to the municipality.

The *Madawaska district* comprises municipalities in the lower Madawaska and Mississippi and neighbouring Ottawa river valleys. Original developments were made by M. J. O'Brien Company, Limited and its subsidiary, the Galetta Electric Power and Milling Company, Limited. The interests and properties of this company were taken over by the Commission and operation assumed May 31, 1929. Power is obtained from developments on the Madawaska and Mississippi rivers, the transmission voltage on the former being 33 kv. and on the latter 11 kv. The two networks are tied together through transformers at Arnprior transformer station.

TRANSMISSION LINES—110 kv., 270.5 miles; 44 kv., 629 miles; 33 kv., 101.1 miles; 26.4 to 6.6 kv., 115.6 miles.

TRANSFORMATION—Total capacity in 89 stations owned by the Commission=step up, 74,895 kv-a. in 13 stations; step down, 162,558 kv-a. in 7-110 kv. transformer stations and 67 distributing stations.

GENERATION:

CENTRAL ONTARIO DISTRICT

Sidney Generating Station

Situated at Dam No. 2, on Trent river. Formerly property of Electric Power Company. In operation 1911. Commission assumed control 1916. Power house and intake integral with dam. Average operating head, 18.5 ft.

Main Turbines—Four 1,400 h.p. Boving, vertical shaft. Total capacity, 5,600 h.p.

Auxiliary Turbine—One 110 h.p. Boving direct connected to exciter.

Main Generators—Four 937.5 kv-a. Swedish General Electric Company, 3-phase, 60 cycles, 6,600 volts, direct connected to turbine. Total capacity, 3,750 kv-a.

Exciters—One 75 kw., turbine driven, one 75 kw., motor driven, Swedish General Electric Company, 125 volts.

Transformers—Three banks = three 3,000 kv-a. Canadian Westinghouse Company, 3-phase, 6.6 to 44 kv. Total capacity, 9,000 kv-a.

Frankford Generating Station

Situated at Dam No. 5, on Trent river. Formerly property of Electric Power Company. In operation 1913. Commission assumed control 1916. Power house and intake integral with dam. Average operating head, 17 ft.

Main Turbines—Four 1,200 h.p. Boving, vertical shaft. Total capacity, 4,800 h.p.

Auxiliary Turbine—One 100 h.p. Boving direct connected to exciter.

Main Generators—Four 812.5 kv-a. Swedish General Electric Company, 3-phase, 60 cycles, 6,600 volts, direct connected to turbine. Total capacity, 3,250 kv-a.

Exciters—One 75 kw., turbine driven, one 75 kw., motor driven, Swedish General Electric Company, 125 volts.

Transformers—Power fed at generator voltage to step-up transformers at Sidney transformer station.

Meyersburg Generating Station

Situated at Dam No. 8, on Trent river, about four miles below Campbellford. Constructed by Commission. In operation October, 1924. Remote supervisory control from Ranney Falls plant, about three miles up stream includes fifty-seven possible supervisory operations, and indications of operating conditions at plant. Power house and intake integral with dam. Average operating head, 32 ft.

Main Turbines—Three 2,200 h.p. Allis-Chalmers, vertical shaft. Total capacity, 6,600 h.p.

Main Generators—Three 2,000 kv-a. Swedish General Electric Company, 3-phase, 60 cycles, 6,600 volts, direct connected to turbine. Total capacity, 6,000 kv-a.

Exciters—Three 31 kw. Swedish General Electric Company, 115 volts, direct connected to main generators.

Transformers—Three banks = three 2,000 kv-a. Packard Electric Company, 3-phase, 6.6 to 44 kv. Total capacity, 6,000 kv-a.

Hague's Reach Generating Station

Situated at Dam No. 9 on Trent river, about $2\frac{1}{4}$ miles below Campbellford. Constructed by Commission. In operation March, 1925. Remote supervisory control from Ranney Falls plant, with duplicate equipment to that at Meyersburg plant. Power house and intake integral with dam. Average operating head, 22.5 ft.

Main Turbines—Three 1,600 h.p. Allis-Chalmers, propeller type, vertical shaft. Total capacity, 4,800 h.p.

Main Generators—Three 1,400 kv-a. Canadian Westinghouse Company, 3-phase, 60 cycles, 6,600 volts, direct connected to turbine. Total capacity, 4,200 kv-a.

Exciters—Three 30 kw. Canadian Westinghouse Company, 125 volts, direct connected to main generators.

Transformers—Three banks = three 1,350 kv-a. Moloney Electric Company, 3-phase, 6.6 to 44 kv. Total capacity, 4,050 kv-a.

Ranney Falls Generating Station

Situated at Dam No. 10 on Trent river, about one mile below Campbellford. Constructed by Commission. In operation August, 1922. Power house and intake integral with dam. Average operating head, 47 ft.

Main Turbines—Two 5,000 h.p. Boving, vertical shaft. Total capacity, 10,000 h.p.

Main Generators—Two 4,500 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 6,600 volts, direct connected to turbine. Total capacity, 9,000 kv-a.

Exciters—Three 50 kw. Canadian General Electric Company, 125 volts, two direct connected to main generators, one motor driven.

Transformers—Two banks = two 4,500 kv-a. Canadian General Electric Company, 3-phase 6.6. to 44 kv. Total capacity, 9,000 kv-a.

Campbellford—Ranney Falls Generating Station, Unit No. 3

Situated on the Trent river, two miles downstream from Campbellford. This unit was formerly a separate development near the main plant, drawing its water supply from the same forebay by a canal and pipe line. Formerly property of the Quinte and Trent Valley Power Company. Commission assumed control in 1937. Operating head, 47 ft.

Turbine—One 1,000 h.p. vertical shaft Leffel turbine, operating at 360 r.p.m., direct connected to a 900 kv-a. Swedish General Electric Company generator.

Generator—One 900 kv-a., 60-cycle, 2,400-volt, direct connected to turbine.

Exciter—8 kw., 125-volt, direct connected to generator.

Transformer—750 kv-a., 3-phase, 2,400/44,000 volts, Canadian General Electric Company.

Seymour Generating Station

Situated at Dam No. 11 on Trent river, about 1½ miles up stream from Campbellford. Formerly property of Electric Power Company. In operation 1910. Commission assumed control, 1916. Power house and intake integral with dam. Average operating head, 23 ft.

Main Turbines—Five 1,100 h.p. William Kennedy, vertical shaft. Total capacity, 5,500 h.p.

Auxiliary Turbine—One 110 h.p. William Kennedy.

Main Generators—Five 750 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 2,400 volts, direct connected to turbines. Total capacity, 3,750 kv-a.

Exciters—One 60 kw., turbine driven, one 75 kw. motor driven, Canadian General Electric Company, 125 volts.

Transformers—Two banks = two 3,000 kv-a. Canadian Westinghouse Company, 3-phase, 2.4 to 44 kv. Total capacity, 6,000 kv-a.

Heely Falls Generating Station

Situated at Dam No. 14 on Trent river, about five miles up stream from Campbellford. Formerly property of Electric Power Company. In operation 1913. Commission assumed control 1916. Water conveyed from head works through three steel penstocks to turbines. Average operating head, 74 ft.

Main Turbines—Two 5,600 h.p. Escher Wyss; one 5,600 h.p. Wellman-Seaver-Morgan double runner, all horizontal shaft. Total capacity, 16,800 h.p.

Auxiliary Turbine—One 300 h.p. Escher Wyss.

Main Generators—Two 3,750 Canadian General Electric Company; one 3,750 kv-a. Swedish General Electric Company, 3-phase, 60 cycles, 6,600 volts, direct connected to turbines. Total capacity, 11,250 kv-a.

Exciters—Two 160 kw. Canadian General Electric Company, 125 volts, one turbine and one motor driven.

Transformers—Three banks = three 3,750 kv-a. Canadian Westinghouse Company, 3-phase, 6.6 to 44 kv. Total capacity, 11,250 kv-a.

Auburn Generating Station

Situated at Dam No. 18 on Otonabee river, near the city of Peterboro. Formerly property of Electric Power Company. In operation 1911. Commission assumed control 1916. Power house and intake integral with dam. Average operating head, 18.5 ft.

Main Turbines—Three 960 h.p. William Hamilton, horizontal shaft. Total capacity, 2,880 h.p.

Auxiliary Turbine—One 135 h.p. William Hamilton.

Main Generators—Three 625 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, two 6,600 volts, one 2,400 volts, direct connected to turbines. Total capacity, 1,875 kv-a.

Exciters—One 135 kw., turbine driven, one 90 kw., motor driven, Swedish General Electric Company, 125 volts.

Transformers—One bank = three 200 kv-a. Canadian General Electric Company, single-phase, 2.4 to 6.6 kv. Total capacity, 600 kv-a. Fed at 6.6 kv. to Auburn transformer station, where it is stepped up through two 1,875 kv-a. Canadian General Electric Company, 3-phase units, 6.6 to 44 kv.

Fenelon Falls Generating Station

Situated at Dam No. 30, on the Sturgeon river at Fenelon Falls. Formerly property of Electric Power Company. In operation 1899. Commission assumed control 1916. Power house and intake integral with dam. Average operating head, 22.5 ft.

Main Turbines—Two 500 h.p. Samson, horizontal shaft. Total capacity, 1,000 h.p.

Main Generators—Two 400 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 600 volts. Total capacity, 800 kv-a.

Exciter—One 30 kw. Canadian General Electric Co., 125 volts, belt driven.

Transformers—Two banks = six 135 kv-a. Canadian General Electric Company, single-phase air blast, 600 to 11,000 volts. Total capacity, 810 kv-a.

Young's Point Generating Station

Situated on the Otonabee river below Clear lake. Formerly property of Canada Cement Company. Commission assumed control in 1936. Operating head, 7 ft.

Turbine—One 700 h.p. William Hamilton, four single wheels, each set in open flumes and connected through bevel mortice gears to a jack shaft.

Generator—400 kv-a., 60-cycle, 200 r.p.m., 600-volt, Canadian General Electric Company, gear driven by turbine.

Exciter—12 kw., 900 r.p.m. Dick Kerr Company, belt driven from turbine shaft.

Transformers—One bank of three 125 kv-a., 575-11,000 volts, Canadian General Electric Company, and one 500 kv-a., 3-phase, 575-10,500 volts, Packard Electric Company.

Lakefield Generating Station

Situated on Otonabee river at village of Lakefield. Formerly property of Canada Cement Company. Commission assumed control in 1936. Operating head, 16 ft.

Turbine—One 2,300 h.p. Canadian Allis-Chalmers, Limited, vertical shaft.

Generator—2,500 kv-a., 60-cycle, 112.5 r.p.m., 2,400-volt Swedish General Electric Company, direct connected to turbine.

Exciter—38 kw., 125-volt, direct connected to generator.

Transformers—Two 1,500 kv-a., 3-phase, 2,400-44,000 volts, Packard Electric Company; two 2,000 kv-a., 3-phase, 10,500-2,400 volts, Canadian General Electric Company.

Lock 24 Generating Station

Situated on the Otonabee river between Peterborough and Lakefield. Formerly property of Canada Cement Company. Commission assumed control in 1936. Operating head, 12 ft.

Turbine—One 1,000 h.p. William Hamilton, four single vertical wheels, each set in open to flumes and connected through bevel mortice gears to one jack shaft.

Generator—900 kv-a, 60-cycle, 11,600 volt Dick Kerr Company, driven by horizontal shaft turbine.

Exciters—One 20 kw., 125-volt, motor driven or belted to generator shaft, Dick Kerr Company. One 17 kw., 125-volt motor-driven Canadian Westinghouse Company.

Sills Island Generating Station

Situated on the Trent river at Frankford. Formerly property of the Quinte and Trent Valley Power Company. Commission assumed control in 1937. Operating head, 14 ft.

Turbines—Two 1,400 h.p. S. Morgan Smith-Inglis Company, Limited, vertical shaft, propeller turbines, operating at 120 r.p.m.

Generators—Two 1,200 kv-a., 60-cycle, 6,600-volt, 600 r.p.m. Swedish General Electric Company, connected through 1-5 ratio gears to turbines.

Exciters—Two 15 kw., 125-volt, direct connected to generators.

Transformers—One 3,000 kv-a., 3-phase, 6,600-44,000 volts, Canadian General Electric Company.

RIDEAU DISTRICT

High Falls Generating Station

Situated on the Mississippi river, at High Falls, immediately above Dalhousie lake. Constructed by Commission. In operation May, 1920. Water conveyed from head works through wood stave pipe to turbines. Average operating head, 78 ft.

Main Turbines—Three 1,240 h.p. Leffel, horizontal shaft. Total capacity, 3,720 h.p.

Main Generators—Four 350 kv-a., two per turbine, one 875 kv-a. General Electric Company, 3-phase, 60 cycles, 4,400 volts, horizontal shaft, direct connected to turbines. Total capacity, 2,275 kv-a.

Exciters—Three 25 kw. General Electric Co., belt driven.

Transformers—Three banks = three 750 kv-a. Packard Electric Company, 3-phase, 4.16 to 25.4 kv. Total capacity, 2,250 kv-a.

Carleton Place Generating Station

Situated on Mississippi river at Carleton Place. Formerly property of H. Brown and Sons. In operation 1910. Purchased by Commission, May, 1919. Operation discontinued, June, 1920. Renovated and operated as standby since that date. Average operating head, 10.5 ft.

Main Turbines—Three 283 h.p. Leffel, Samson vertical shaft. Total capacity, 849 h.p.

Main Generators—One 150 kv-a., one 250 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 2,300 volts. Total capacity, 400 kv-a.

Exciters—Two 7 kw. Canadian General Electric Company, belt driven.

Transformers—Power fed at generator voltage to low voltage bus in Carleton Place distributing station.

MADAWASKA DISTRICT

Calabogie Generating Station

Situated on Madawaska river, at lower end of Calabogie lake. Formerly property of M. J. O'Brien, Limited. In operation 1917. Commission assumed control May, 1929. Power house and head works integral with dam. Average operating head, 30 ft.

Main Turbines—Two 3,000 h.p. Allis-Chalmers, horizontal shaft. Total capacity, 6,000 h.p.

Auxiliary Turbine—One 200 h.p. Allis-Chalmers.

Main Generators—Two 2,000 kv-a. Allis-Chalmers, 3-phase, 60 cycles, 6,600 volts, horizontal shaft. Total capacity, 4,000 kv-a.

Exciters—Two 120 kw. Allis-Chalmers, 125 volts, one belted to main unit, one turbine driven.

Transformers—One bank = three 2,000 kv-a. Westinghouse Electric and Manufacturing Company, single-phase, 6.6 to 33 kv. Total capacity, 6,000 kv-a.

Galetta Generating Station

Situated on Mississippi river at Hubbells Falls, about four miles from Arnprior. Formerly property of Galetta Power and Milling Company. In operation 1907. Commission assumed control May, 1929. Power house and head works integral with dam. Average operating head, 22 ft.

Main Turbines—One 700 h.p. William Kennedy; one 700 h.p. Boving, horizontal shaft. Total capacity, 1,400 h.p.

Auxiliary Turbines—Two 50 h.p., driving exciters.

Main Generators—Two 400 kv-a. Canadian Westinghouse Company, 3-phase, 60 cycles, 2,300 volts, horizontal shaft, direct connected to turbines. Total capacity, 800 kv-a.

Exciters—Two 30 kw. Canadian Westinghouse Company, 125 volts, connected to auxiliary turbine.

Transformers—One bank = three 1,500 kv-a. Canadian Westinghouse Company, single-phase, 2.3 to 33 kv.; one bank = two 125 kv-a., two 60 kv-a. Canadian Westinghouse Company, single-phase, 2.3 to 11 kv. Total capacity, 4,870 kv-a.

THUNDER BAY SYSTEM

GENERAL—This system comprises that portion of the district of Thunder Bay adjacent to lake Superior, and includes the lake-head cities of Port Arthur and Fort William. Power is obtained from developments on the Nipigon river.

TRANSMISSION LINES—110 kv., 260.3 miles; 44 kv., 116.4 miles; 22 kv., 0.35 miles; 12 kv., 1.45 miles.

TRANSFORMATION—Total capacity in 13 stations=step up, 121,500 kv-a. in 3 stations; step down, 78,913 kv-a. in 10 stations.

GENERATION:

Cameron Falls Generating Station

Situated at Cameron Falls, on the Nipigon river. Constructed by the Commission, and first unit placed in operation in December, 1920. Power house and head works integral with dam. Water conveyed from head works to turbine through reinforced concrete intake pipes, three for each unit, approximately 50 ft. in length and 13 ft. by 10 ft. in cross section. Normal operating 72 ft.

Main Turbines—Two 12,500 h.p. I.P. Morris; two 12,500 h.p. Allis-Chalmers; two 12,500 h.p. Canadian Vickers, all vertical shaft. Total capacity, 75,000 h.p.

Main Generators—Two 10,600 kv-a. Canadian Westinghouse Company; four 10,600 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 12,000 volts, vertical shaft. Total capacity, 63,600 kv-a.

Exciters—Six 125 kw. direct connected to main generators; one 125 kw. motor driven.

Transformers—Three banks=nine 8,000 kv-a. Canadian General Electric Company, single-phase, 12 to 63.5 kv., to operate 110 kv., star connected. One bank=three 1,500 kv-a. Canadian Westinghouse Company, single-phase, 12 to 44 kv. Total capacity, 76,500 kv-a.

Alexander Generating Station

Situated on Nipigon river, about 1½ miles below Cameron Falls station, and remote controlled from that point. Constructed by Commission, and first unit in operation October, 1930. Water conveyed through short intake canal to head works at power house. Head pond created by large earth dam, dykes and concrete sections. Normal operating head, 60 ft.

Main Turbines—Three 18,000 h.p., S. Morgan Smith-Inglis, vertical shaft. Total capacity, 54,000 h.p. Provision made for installation of a fourth unit.

Main Generators—Three 15,000 kv-a. Canadian General Electric Company, 3-phase, 60 cycles 12,000 volts, vertical shaft. Total capacity, 45,000 kv-a.

Exciters—Three 165 kw. Canadian General Electric Company, 250 volts, direct connected to main units.

Transformers—Three banks=three 15,000 kv-a. Canadian General Electric Company, 3-phase, 12 to 110 kv. Total capacity, 45,000 kv-a.

NORTHERN ONTARIO PROPERTIES

GENERAL—Five districts, viz., Nipissing, Sudbury, Abitibi, Patricia and St. Joseph, at present independent, serve portions of Northern Ontario. The properties in these districts are owned by the Province and operated on behalf of the Ontario Government by The Hydro-Electric Power Commission.

The *Nipissing district* has been operated by the Commission for a number of years, and includes municipalities lying immediately to the east of lake Nipissing. Power is obtained from developments on the South river. Power rights and plant formerly owned by Nipissing Power Company, controlled by Electric Power Company, Limited. Commission assumed control March, 1916, when the latter Company and all its subsidiaries were acquired by the Ontario Government.

The *Sudbury district* serves the territory adjacent to the city of Sudbury, including the mining area known as Sudbury Basin. Power is obtained from developments on the Wanapitei river. Power rights and plant formerly owned by the Wahnapietae Power Company. Control assumed by Commission April, 1930.

The *Abitibi district* comprises the area that can be served from a 132,000-volt transmission line extending from the Abitibi Canyon power development to Sudbury. Power at 25 cycles is transmitted from developments on the Abitibi river and delivered to the International Nickel Company.

The *Patricia district* was established to supply power to the Red Lake mining district. Power is obtained from a development on the English river.

The *St. Joseph district* was established to supply power to Central Patricia and Pickle Crow Mining Companies. Power is obtained from a development on the Albany river.

TRANSMISSION LINES—132 kv., 552.93 miles; 44 kv., 40.56 miles; 33 kv., 6.83 miles; 26.4 to 13.2 kv., 248.70 miles.

TRANSFORMATION—Total capacity in 31 stations owned by the Commission=step up, 229,725 kv-a. in 10 stations; step down, 109,798 kv-a. in 21 stations.

GENERATION:

NIPISSING DISTRICT

Nipissing Generating Station

Situated on the South river, about $1\frac{1}{2}$ miles from the village of Nipissing. Formerly the property of Nipissing Power Company. Control assumed by Commission March, 1916. Water conveyed to plant through canal, wood stave pipe line and steel penstock provided with surge tank. Average operating head, 90 ft.

Main Turbines—Two 1,250 h.p. Jenckes Machine Company, horizontal shaft. Total capacity, 2,500 h.p.

Main Generators—One 1,400 kv-a. Canadian Westinghouse Company; one 1,250 kv-a. Swedish General Electric Company, 3-phase, 2,300 volts. Total capacity, 2,650 kv-a.

Exciters—One 17.5 kw. Swedish General Electric Company, 115 volts; one 21 kw. Canadian Westinghouse Company, 125 volts, direct connected to main generators; one $37\frac{1}{2}$ kw. motor driven.

Transformers—One bank=three 900 kv-a. Packard Electric Company, single phase, 2.3 to 22 kv. Total capacity, 2,700 kv-a.

Bingham Chute Generating Station

Situated on South river, about two miles from Powassan. Constructed by Commission. In operation December, 1923. Water conveyed to plant through wood stave pipe line. Average operating head, 47 ft.

Main Turbines—Two 650 h.p. William Kennedy, horizontal shaft. Total capacity, 1,300 h.p.

Main Generators—Two 450 kv-a. Canadian Westinghouse Company, 3-phase, 60 cycles, 2,200 volts.

Exciters—Two 12.5 kw. Canadian Westinghouse Company, direct connected to main generators.

Transformers—One bank=three 300 kv-a. Canadian Westinghouse Company, single-phase, 2.2 to 22 kv. Total capacity, 900 kv-a.

Elliott Chute Generating Station

Situated on South river, approximately $1\frac{1}{2}$ miles up stream from Bingham Chute plant. Constructed by Commission. In operation October, 1929. Semi-automatic. Remote controlled from Bingham Chute station. Water conveyed to plant through wood stave pipe line. Average operating head, 39 ft.

Main Turbine—One 1,800 h.p. S. Morgan Smith-Inglis Company, propeller type, vertical shaft.

Main Generator—One 1,800 kv-a. Swedish General Electric Company, 3-phase, 60 cycles, 2,300 volts, direct connected to turbine.

Exciter—One 22 kw. Swedish General Electric Company, direct connected, 125 volts.

Transformers—One bank=three 650 kv-a. English Electric Company, single phase, 2.3 to 23 kv. Total capacity, 1,950 kv-a.

SUDBURY DISTRICT

Coniston Generating Station

Situated on Wanapitei river, approximately ten miles east of Sudbury. Formerly property of Wahnapiatae Power Company. In operation 1905. Commission assumed control April, 1930. Water conveyed through canal to head works. Steel penstocks to turbines. Average operating head, 53 ft.

Main Turbines—One 1,200 h.p., one 1,600 h.p. Jenckes; one 3,500 h.p. Allis-Chalmers, all horizontal shaft. Total capacity, 6,300 h.p.

Auxiliary Turbines—One 35 h.p., one 70 h.p. Total capacity, 105 h.p.

Main Generators—One 800 kv-a., one 1,250 kv-a., one 2,500 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 2,300 volts. Total capacity, 4,550 kv-a.

Exciters—One 25 kw., one 55 kw., turbine driven, one 100 kw., motor driven, Canadian General Electric Company.

Transformers—Two banks=six 800 kv-a. Canadian General Electric Company, single-phase, water-cooled, 2,300 to 23,000 volts. Total capacity, 4,800 kv-a.

McVittie Generating Station

Situated on Wanapitei river, approximately 26 miles from Sudbury. Formerly property of Wahnapiatae Power Company. In operation 1912. Commission assumed control April, 1930. Water conveyed through canal to head works. Steel penstocks to turbines. Average operating head, 38 ft.

Main Turbines—Two 1,800 h.p. William Kennedy, horizontal shaft. Total capacity, 3,600 h.p.

Auxiliary Turbine—One 75 h.p.

Main Generators—Two 1,250 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 2,300 volts. Total capacity, 2,500 kv-a.

Exciters—Two 75 kw. Canadian General Electric Company, one direct connected to auxiliary turbine, one motor driven.

Transformers—One bank = three 625 kv-a. Canadian General Electric Company, single-phase, water-cooled, 2,300 to 23,000 volts. Total capacity, 1,875, kv-a.

Stinson Generating Station

Situated on Wanapitei river, approximately eight miles up stream from Coniston generating station. Formerly property of Wahnapiatae Power Company. In operation 1925. Commission assumed control April, 1930. Water conveyed through canal to head works. Steel penstocks to turbines. Average operating head, 52.5 ft.

Main Turbines—Two 3,500 h.p. Allis-Chalmers, horizontal shaft. Total capacity, 7,000 h.p.

Auxiliary Turbine—One 150 h.p.

Main Generators—Two 2,500 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 2,300 volts. Total capacity, 5,000 kv-a.

Exciters—One 100 kv-a., turbine driven, one 100 kv-a., motor driven, Canadian General Electric Company, 125 volts.

Transformers—One bank = three 1,667 kv-a. Canadian General Electric Company, single-phase, water cooled, 2,300 to 23,000 volts. Total capacity, 5,000 kv-a.

Crystal Falls Generating Station

Situated on the Sturgeon river about ten miles up stream and north of the town of Sturgeon Falls. Formerly property of the Abitibi Power and Paper Company. Commission assumed control in August, 1937. Normal operating head, 33 ft.

Main Dam—Concrete gravity type; includes two 20-ft. sluices controlled by Taintor gates 14 ft. by 20 ft., also one log slide and three spillways with a total length of 54 ft.

Main Turbines—Four 2,600 h.p. I.P. Morris vertical-shaft Francis turbines, each in concrete spiral casing.

Main Generators—Four 2,125 kv-a. Westinghouse Electric Company generators, 3-phase, 60 cycle, 138.5 r.p.m., 2,300 volt, each direct connected to turbine.

Exciters—One 68 kw., 125 volt, 1,150 r.p.m. motor driven Canadian Westinghouse Company.

Transformers—Three 3,000 kv-a, 1-phase, 2,300/22,000 volts, Canadian Westinghouse Company.

ABITIBI DISTRICT

Abitibi Canyon Generating Station

Situated on the Abitibi river approximately seventy miles north of Cochrane. Formerly property of the Ontario Power Service Corporation. Commission assumed control April, 1933, and completed installation of two generators which were placed in operation in May and December, 1933. The development was constructed for ultimate installation of five units. Water conveyed from head works to turbines through steel-plate penstocks, 18 ft. in diameter. Normal operating head, 237 ft.

Main Turbines—Five 66,000 h.p. Canadian Allis-Chalmers, vertical shaft.

Auxiliary Turbines—One 600 h.p. Canadian Allis-Chalmers.

Main Generators—Five 48,500 kv-a., Canadian General Electric Company, 3-phase, 25 cycle, 13,800 volts. Installed capacity, 242,500 kv-a.

Auxiliary Generator—One 500 kv-a., Canadian General Electric Company.

Main Exciters—180 kw., 250 volts, direct connected to main generators.

Sub-Exciters—7 kw., 250 volts, direct connected to main exciters.

Transformers—Four banks, each three 16,000 kv-a., 13,800 delta/132,000 volt star, Canadian General Electric Company. Installed capacity, 192,000 kv-a.

PATRICIA DISTRICT

Ear Falls Generating Station

Situated at Ear Falls on the English river. Constructed by Commission. In operation December, 1929. Water conveyed from Lac Seul conservation dam to power house through four wood stave pipes. Normal operating head, 36 ft.

Main Turbines—One 5,000 h.p. Dominion Engineering Works, vertical shaft; one 5,000 h.p. Morgan-Smith-Inglis, vertical shaft.

Main Generators—One 5,000 kv-a. Canadian Westinghouse Company, 3-phase, 60 cycles, 6,600 volts, direct connected to turbine; one 4,500 kv-a. Ateliers de Construction Oerlikon, 3-phase, 60 cycles, 6,600 volts, direct connected to turbine.

Exciters—One 65 kw. Canadian Westinghouse Company, 125 volts, direct connected; one 48 kw. Ateliers de Construction Oerlikon, 125 volts, direct connected.

Transformers—One bank = three 750 kv-a., 6.6 to 44 kv., single-phase, English Electric Company; one bank = three 750 kv-a., 6.6 to 44 kv., single-phase, Commonwealth Electric Corporation; one bank = three 1,500 kv-a., 6.6 to 44 kv., single-phase, Moloney Electric Company. Total capacity, 9,000 kv-a.

ST. JOSEPH DISTRICT

Rat Rapids Generating Station

Situated at Rat Rapids at the outlet of lake St. Joseph, on the Albany river. Constructed by Commission. In operation March, 1935. Concrete turbine chamber and generating room substructure. Rock filled timber crib dams. Average operating head, 14.5 ft.

Main Turbines—One 1,200 h.p. Allis-Chalmers, quadruple runner, horizontal shaft; one 1,750 h.p. Dominion Engineering Works, vertical shaft.

Main Generators—One 2,000 kv-a. Allis-Chalmers, 3-phase, 60 cycles, 6,600 volts, horizontal shaft; one 1,500 kv-a. Canadian General Electric Company, 3-phase, 60 cycles, 2,300 volts, vertical shaft. Total capacity, 3,500 kv-a.

Exciter—One 45 kw., Canadian Westinghouse belt driven from generator shaft.

Transformers—One bank = three 333 kv-a., Packard Electric Company, 6.6 to 22 kv., single-phase, 60 cycles; one bank = three 500 kv-a., Packard Electric Company, 2.3 to 22 kv., single-phase, 60 cycles. Total capacity, 2,500 kv-a.

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MAP OF PORTION OF THE
PROVINCE OF ONTARIO
SHOWING
TRANSMISSION LINES AND STATIONS
IN DISTRICTS OF THE
NORTHERN ONTARIO PROPERTIES
AND IN THE
THUNDER BAY SYSTEM

Scale - 25 Miles - 1 inch

LEGEND

- High-voltage Lines
- Low-voltage Lines
- Distribution Lines
- Existing Hydro-Electric Generating Stations
- Proposed Hydro-Electric Generating Stations
- Other Plants Supplying Power to H.E.C.
- High-voltage Stations
- Frequency Changer Stations
- Substations
- Distributing Stations
- Existing Regulating Dams
- Proposed Regulating Dams
- Interconnected Lines Not Owned by H.E.C.

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